

**Payment Habits 2010+
Seminar
11 October 2007**



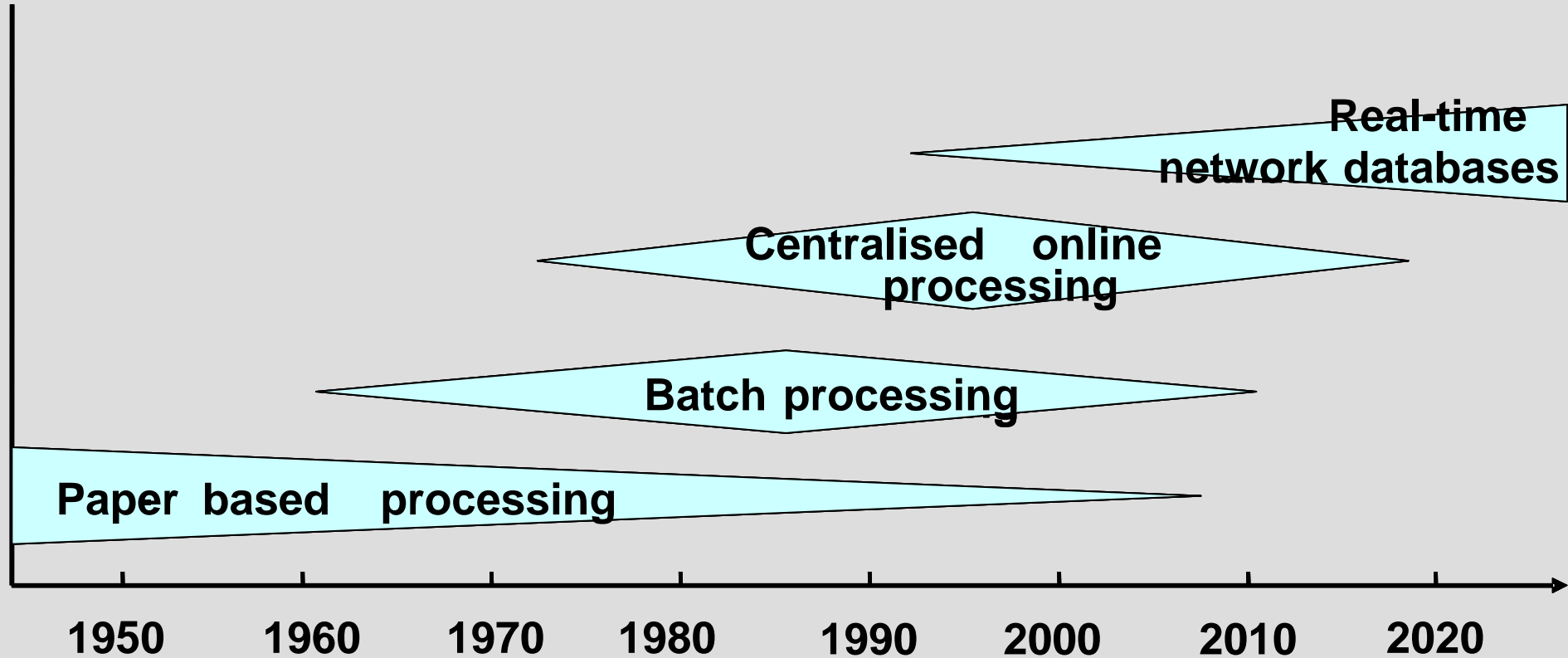
**EUROJÄRJESTELMÄ
EUROSYSTEMET**

4. Costs, pricing and competition in the payment industry

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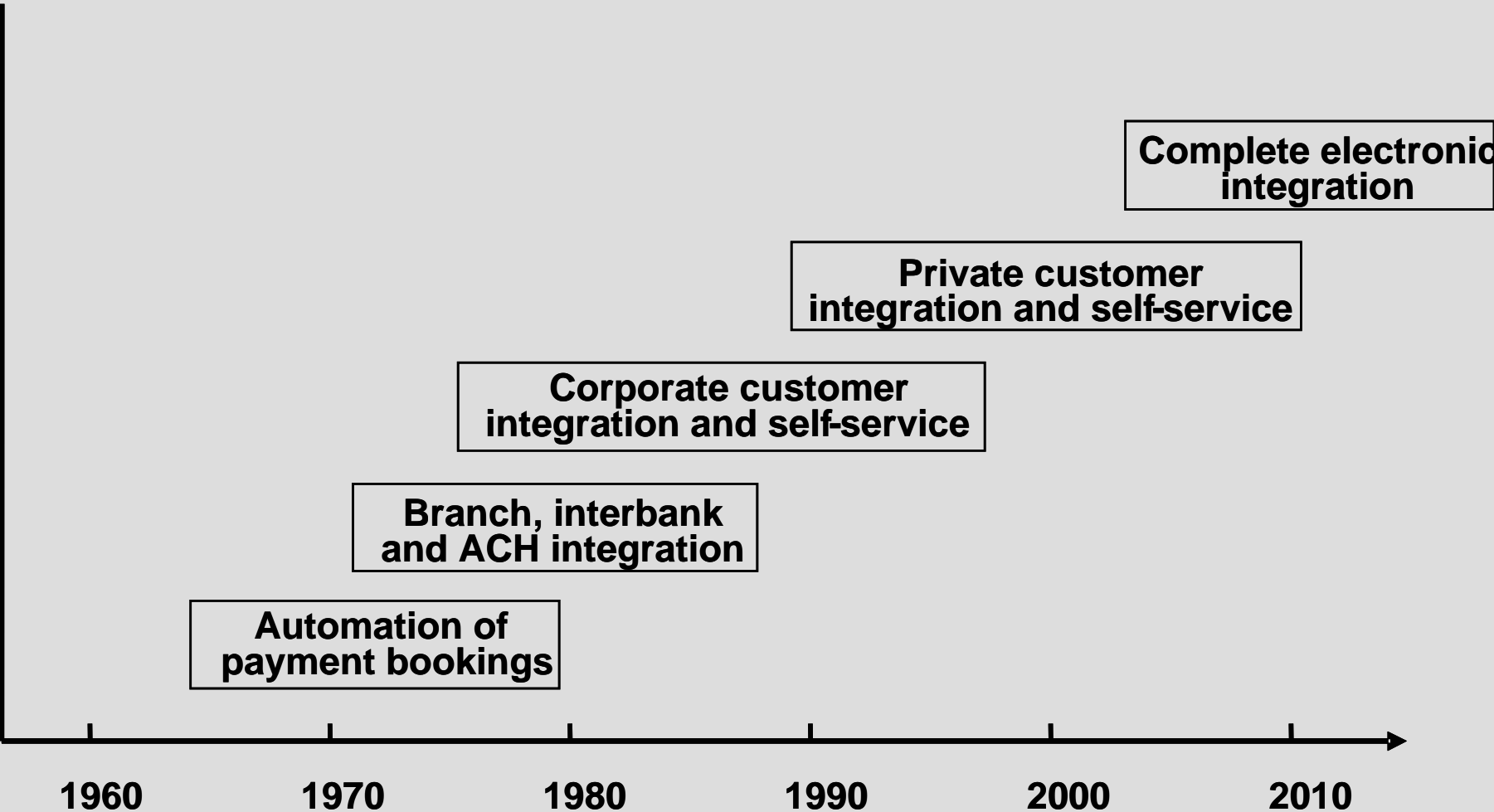
**The views expressed are those of the author and
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Payments cost are dependent on technology



*Different technologies largely overlap
in the payments industry*

Benefits depend on implementation depth



Payment efficiency requires ICT implementation jointly by banks and customers

Assessments of total payment costs in available payment cost studies (mainly payments at merchants)

- ◆ 0.65% of GDP in Holland, Brits & Winder 2005
(costs of merchants and banks)
- ◆ 0.74% of GDP in Belgium, NBB 2005
(costs of merchants and banks)
- ◆ 0.49% of GDP in Norway, Greswik & Øvre 2003
(just costs of banks)

National differences are partly due to real differences related to different structures, volumes etc, but also due to methodological differences

Payments are a significant source of add-on costs

Estimated transaction costs

◆ Holland

- Average cost per transaction: cash EUR 0.3, debit card 0.486, e- purse 0.931

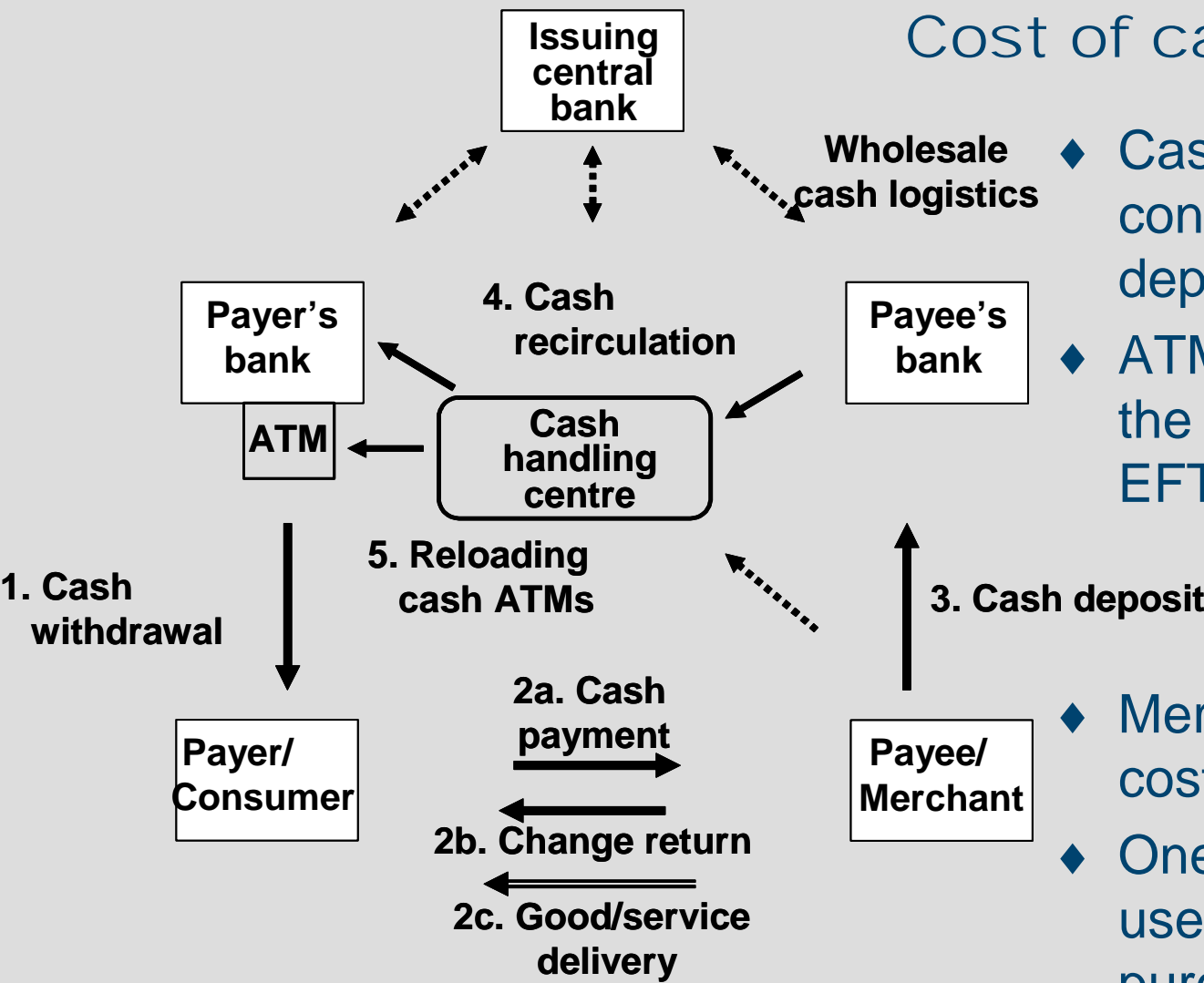
◆ Belgium

- Average cost per transaction: cash EUR 0.53, debit card 0.55, e-purse 0.54

◆ Norway

- Norwegian costs are not comparable due to differences in methodology

Cost of cash vs cards



- ◆ Cash is withdrawn by consumers to be deposited by merchants
- ◆ ATM withdrawals require the same ICT systems as EFTPOS purchases

- ◆ Merchants have extra costs for cash deposits
- ◆ One withdrawal can be used for several purchases

According to Dutch central bank findings, card purchases are currently more efficient above EUR 11.63, in the Netherlands

Total costs for payments

**Payer/
Buyer**

Payment initiation and acceptance costs
Controlling debits
Risk of fraud and lost instruments
Security costs
Forgone interest
ICT costs

**Payee/
Seller**

Payment reception costs
Payment authorisation and initiation costs
Controlling credits
Fraud and error risks
Foregone interest
ICT costs
Capital costs

**Payer's
bank**

Service provision costs
Fraud and error risks
Security costs
ICT costs
Capital costs

**Fund
transfer
system**

Clearing costs
Settlement costs
Security costs
ICT costs
Capital costs

**Payee's
bank**

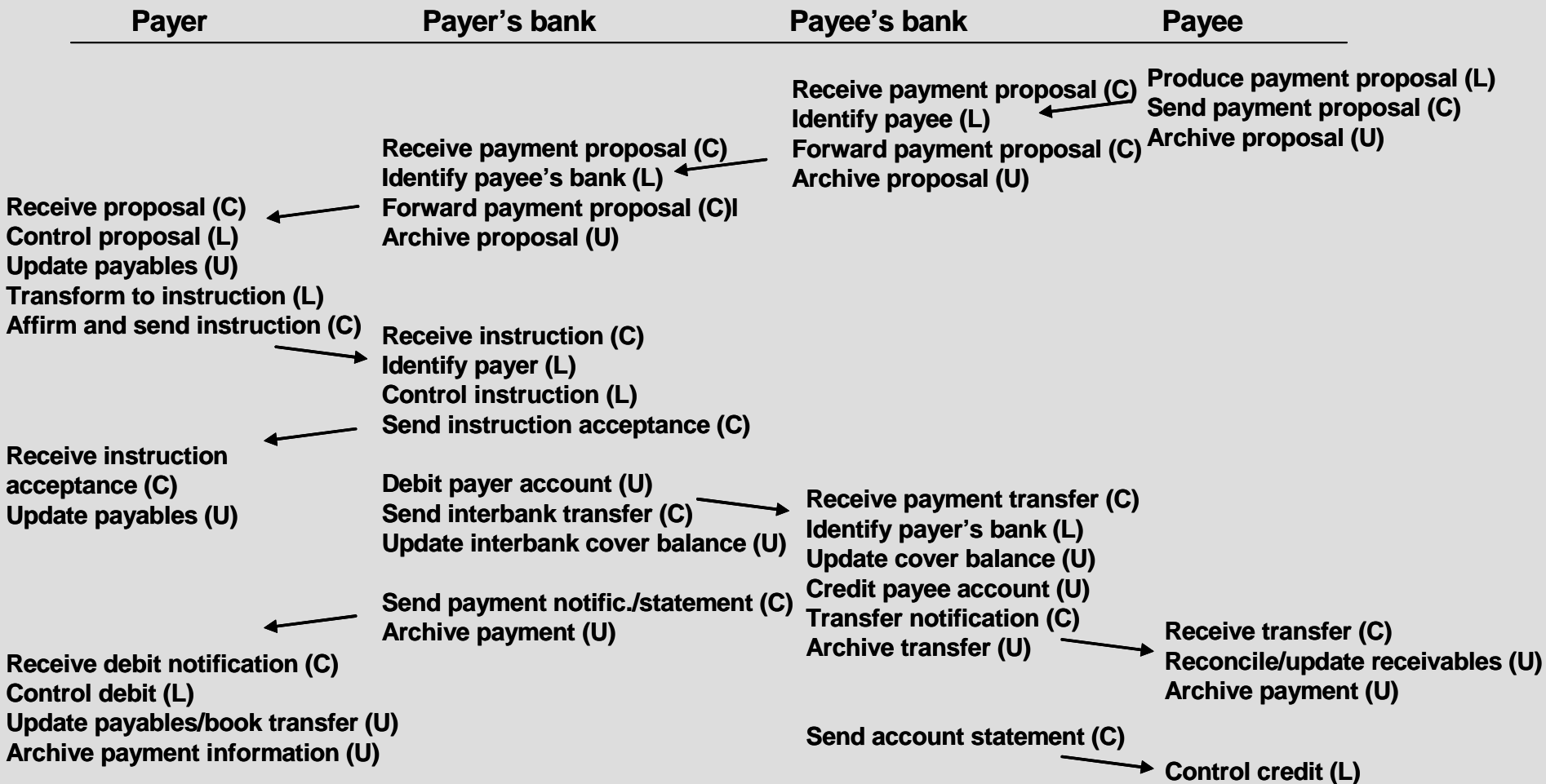
Service provision costs
Fraud and error risks
Security costs
ICT costs
Capital costs

Problems with historic cost collections

- ◆ Methodological problems
 - which costs to include, how to distribute fixed costs
- ◆ Biased volumes due to cross-subsidised charges and hidden pricing
 - Under-priced services (compared to costs), float and embedded merchant costs hide the true costs from customers
- ◆ A mix of different technology levels for the same product
 - same service/product offered at different technology levels: paper-based, semi-automated, fully automated
 - different services/products functions at different levels
- ◆ Parallel redundant infrastructures
 - different ACHs for different types of payment instruments
- ◆ Different span of services and customer integration levels
 - automatic reconciling, e-invoicing data etc

Difficult to draw conclusions based on historic studies regarding true efficiency of payment instruments

A sub-process based methodology looks for cost differences in sub-processes



***All payment instruments use the same common set
of sub-processes***

Basic sub-processes

Payee

Produce payment proposal (L)
Send payment proposal (C)
Archive proposal (U)
Update receivables (U)

Payee's bank

Receive payment proposal (C)
Identify payee (L)
Forward payment proposal (C)
Archive proposal (U)

Payer's bank

Receive payment proposal (C)
Identify payee's bank (L)
Forward payment proposal (C)
Archive proposal (U)

Payer

Receive proposal (C)
Control proposal (L)
Update payables (U)
Convert to instruction (L)
Affirm and send instruction (C)

Receive instruction (C)
Identify payer (L)
Control instruction (L)
Send instruction acceptance (C)

Receive instruction
acceptance (C)
Update payables (U)

Debit payer account (U)
Send interbank transfer (C)
Update interbank cover balance (U)

Receive debit notification (C)
Control debit (L)
Update payables/book transfer (U)
Archive payment information (U)

Send payment notific./statement (C)
Archive payment (U)

Basic sub-processes cont.



Payee's bank

Receive payment transfer (C)
Identify payer's bank (L)
Update cover balance (U)
Credit payee account (U)
Transfer notification (C)
Archive transfer (U)



Payee

Receive transfer (C)
Reconcile/update receivables (U)
Archive payment (U)

Send account statement (C)



Control credit (L)

Types of sub-processes

- ◆ Processing logic
 - Communication process (C)
 - Look-up (and compare) process (L)
 - Update process (U)
- ◆ Processing method
 - Manual
 - Semi-automated
 - Automated (completely electronic)

The 80:20 rule applied to cost differences between processing methods in sub-processes would give rough proportions 80:20:4



Main differences between payment instruments are in the number of manual and semi-manual processes

Sub-process dependent costs

- ◆ Cash has a large number of manual processes
- ◆ Cheques have in all cases the largest number of manual sub-processes compared to other account instruments
- ◆ Slip-based card payments have several manual processes
- ◆ EFTPOS payments require manual reconciling and manual invoice input (if e-invoicing data is not included)
- ◆ Direct debits require partly manual reconciling and invoice input (if e-invoicing data is not included)
- ◆ Paper-based credit transfers have several manual sub-processes
- ◆ E-invoice based credit transfers can be completely automated when including complete reference data

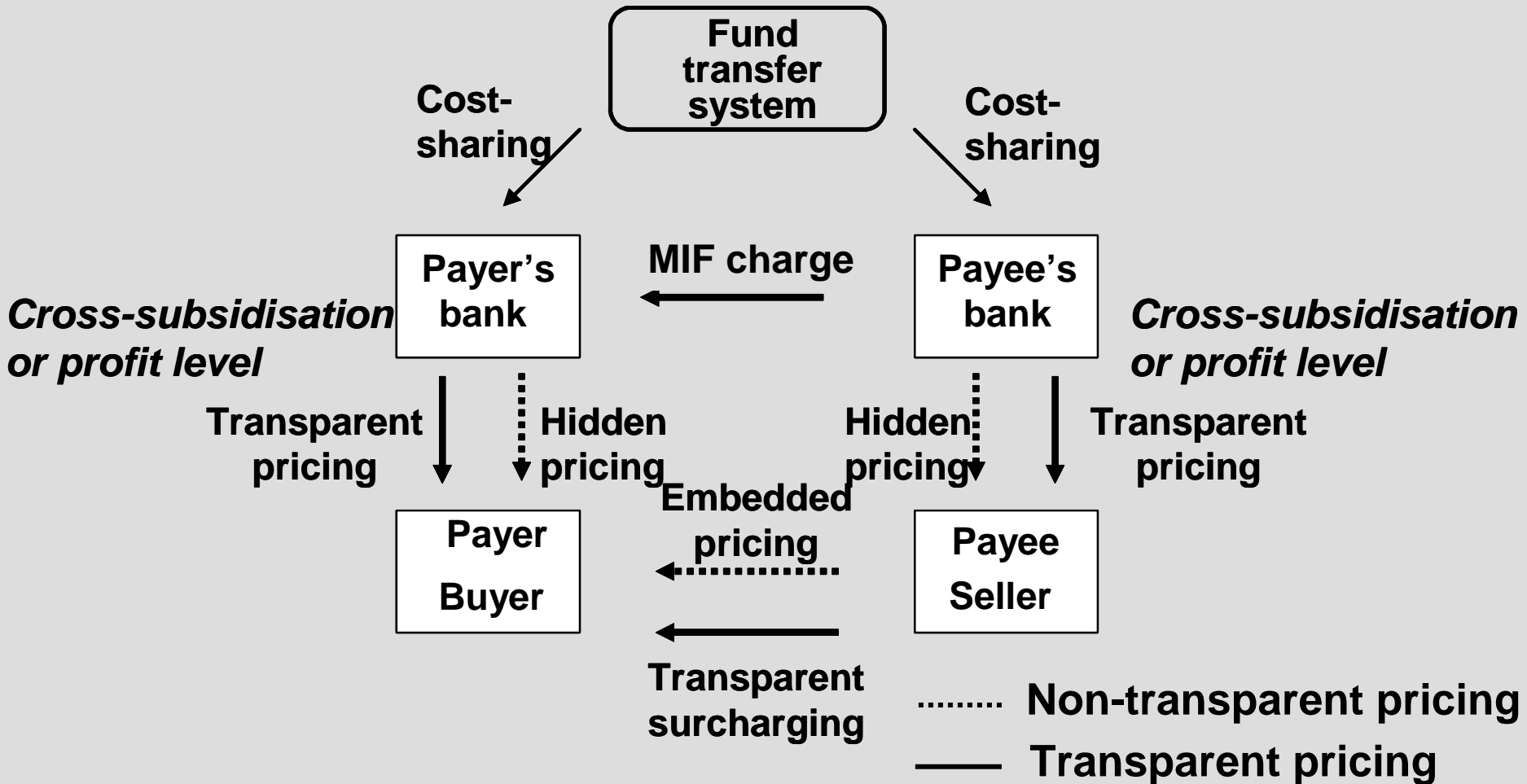
Efficiency gains by focusing on remaining manual and semi-manual processes

Potential cost savings in EU 15 *Just calculation example*

EUR/trans	Total savings EUR bn	Savings as % of GDP pa	Savings per capita pa
€0.1	24	0.2%	€62
€0.25	60	0.6%	€155
€1	240	2.3%	€619
€2	480	4.6%	€1,238

The cost saving potentials are large even with average savings of 10 cents when volumes are big (estim. 240 billion transaction in EU15 in 2005 based on 75% cash transactions)

General pricing structure of payments



Payments show a variety of pricing methods with heavy cross-subsidising and lack of level playing field among instruments

Consequences of cross-subsidy and hidden prices

- ◆ Users experience no efficiency difference
- ◆ Users have no interest to economise on free services
- ◆ Users have no economic incentive to change behavior
- ◆ Difficult to introduce new efficient instruments
- ◆ New efficient competitors have no interest in the market
- ◆ Customers start to view free services as privileges and oppose pricing attempts
- ◆ Service providers increase cross-subsidies as bonus-points etc

***Cross-subsidies are huge development barriers
and double waste of money***

***As long as ATMs are free, customers use cash,
and cheques will remain an efficiency problem in countries
with free cheques***

Effects of interchange fees

- ◆ Interchange fees are common for card payments and sometimes used also for direct debits and cheques (not in use with credit transfers)
- ◆ Interchange fees or Multilateral Interchange Fees (MIFs) transfer revenues from acquirers to issuers (or in some special cases in the opposite direction)
- ◆ Acquirers must increase merchant fees to cover MIF costs
- ◆ Merchants must increase costs of their goods/services in order to cover higher merchant fees (when not surcharging, which acquirers try to forbid)
- ◆ MIFs imply an agreed minimum merchant fee level

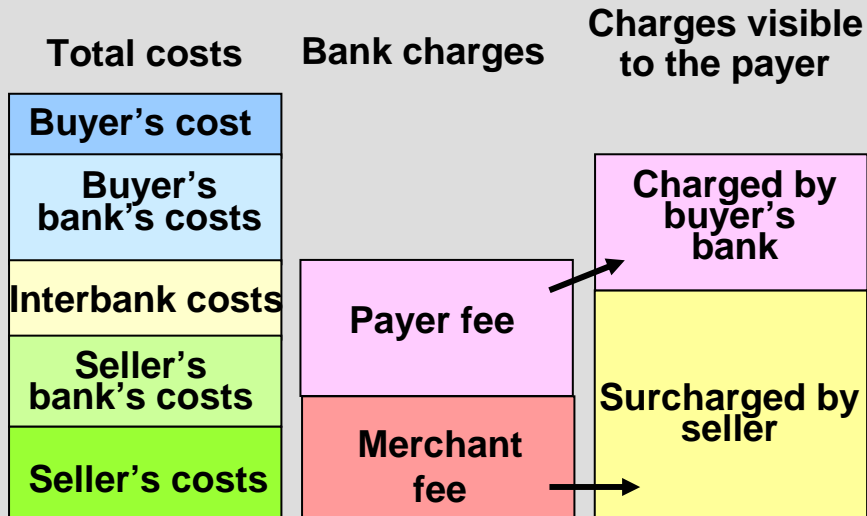
MIFs are pricing agreements among competitors and so require EU competition authority approval



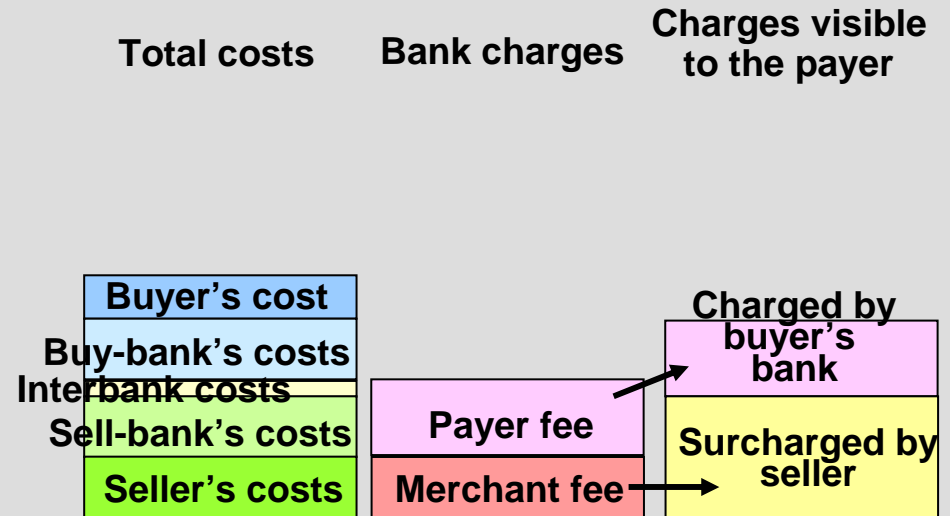
Banks must show that MIFs are beneficial to the public

MIFs are not needed with transparent prices in non-subsidised environments

Instrument 1 (=cash)



Instrument 2a (=cards)

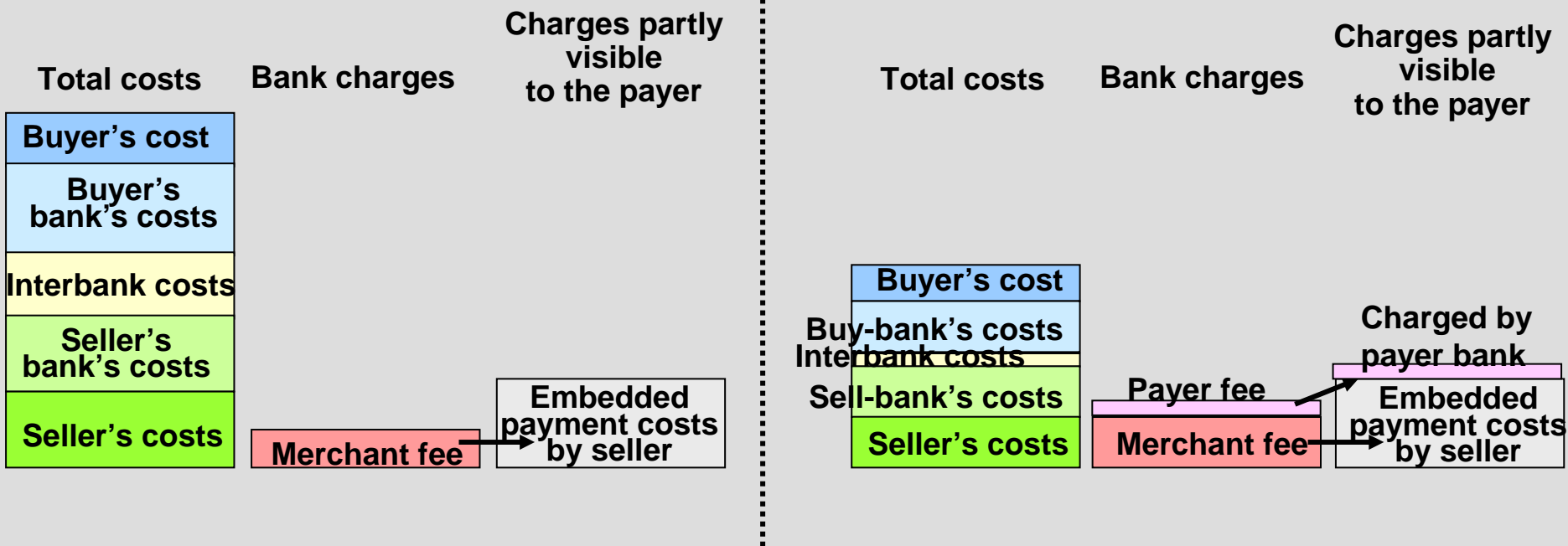


Payer will see all cost transparently and select the efficient instrument based on total costs

MIFs are not needed when current cost structures and subsidised pricing levels favour the efficient payment instrument

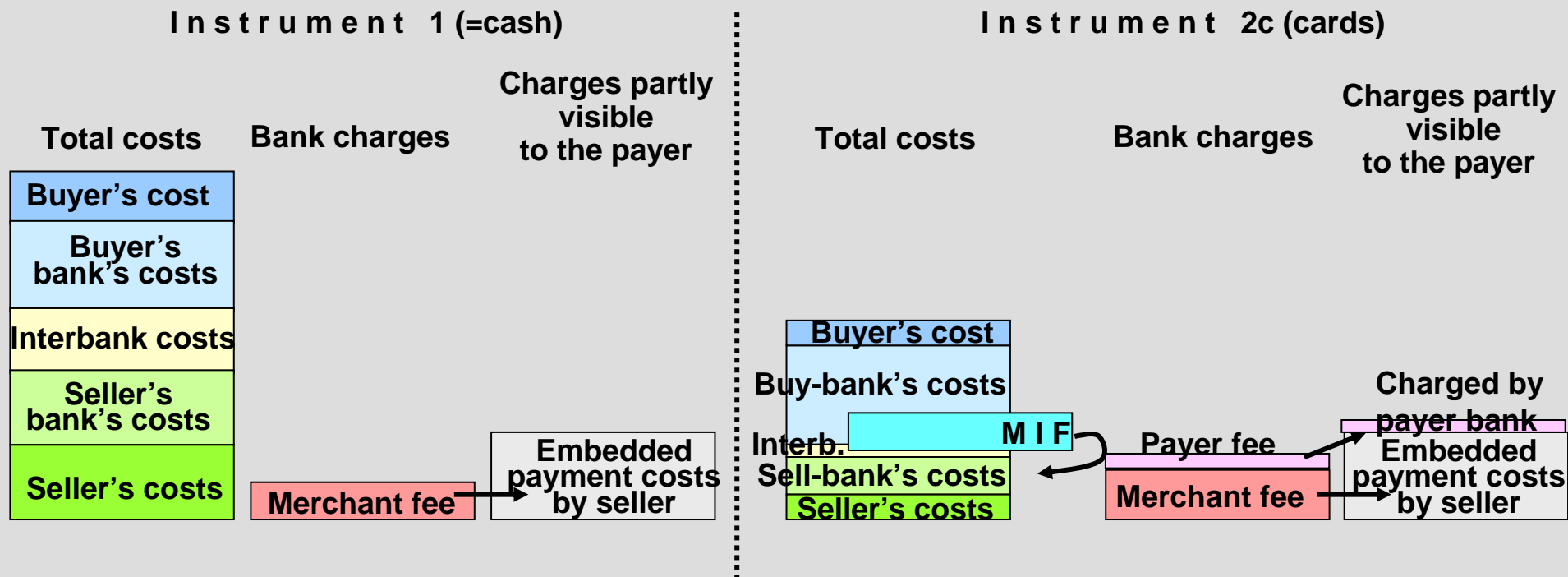
Instrument 1 (=cash)

Instrument 2b (=cards)



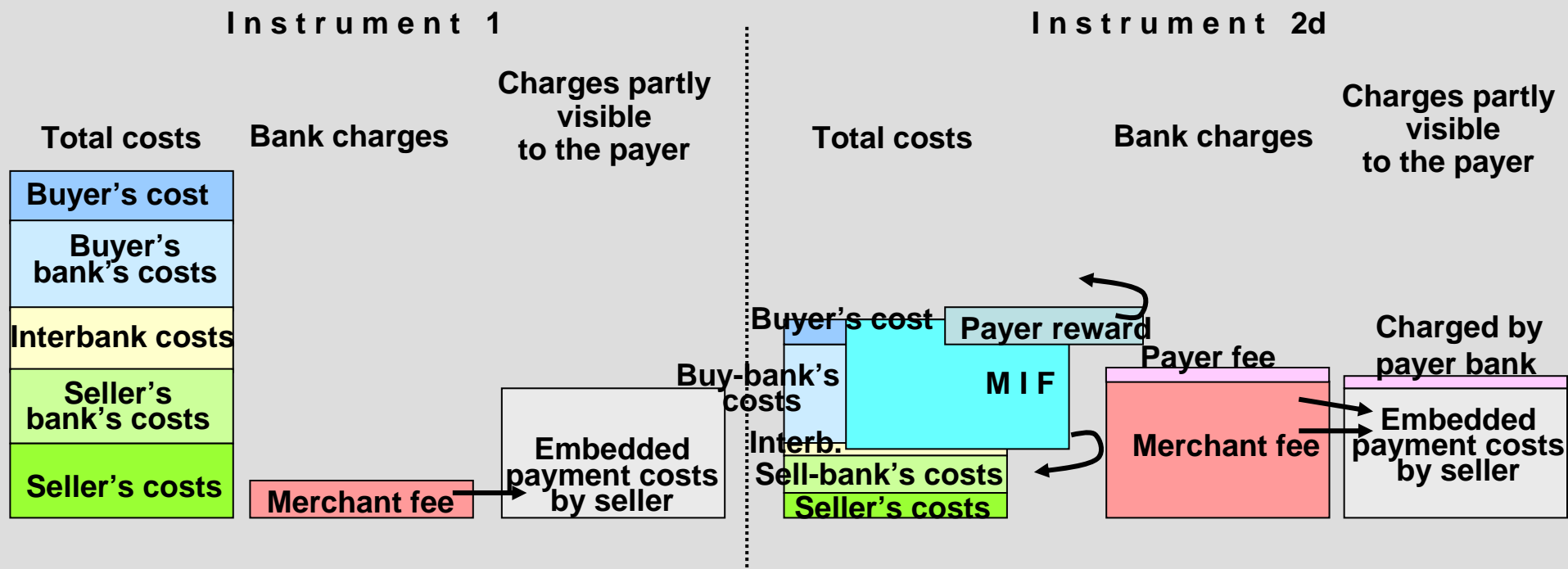
All stakeholders will be better off selecting instrument 2b, the buyer will also see a cost improvement, although most of the improvements are hidden.

An MIF is beneficial when current cost structures and subsidised price levels favour inefficient instruments



In a win-lose situation one stakeholder will be worse off due to the different cost distributions for instruments 1 and 2 although instrument 2 is overall the more cost efficient. An MIF is used to obtain a win-win situation

An MIF is oversized when it provides super normal issuer profits (and often reduces card acceptance by merchants)



In the case of an oversized MIF, super normal profits are created for the issuing bank and the merchants need to increase their embedded charges

Transparent pricing has proved
to be the best way to gain efficiency

It is also in the consumer's interest
although reducing hidden pricing
will initially look like a price increase

There cannot be any price competition
as long as prices are hidden