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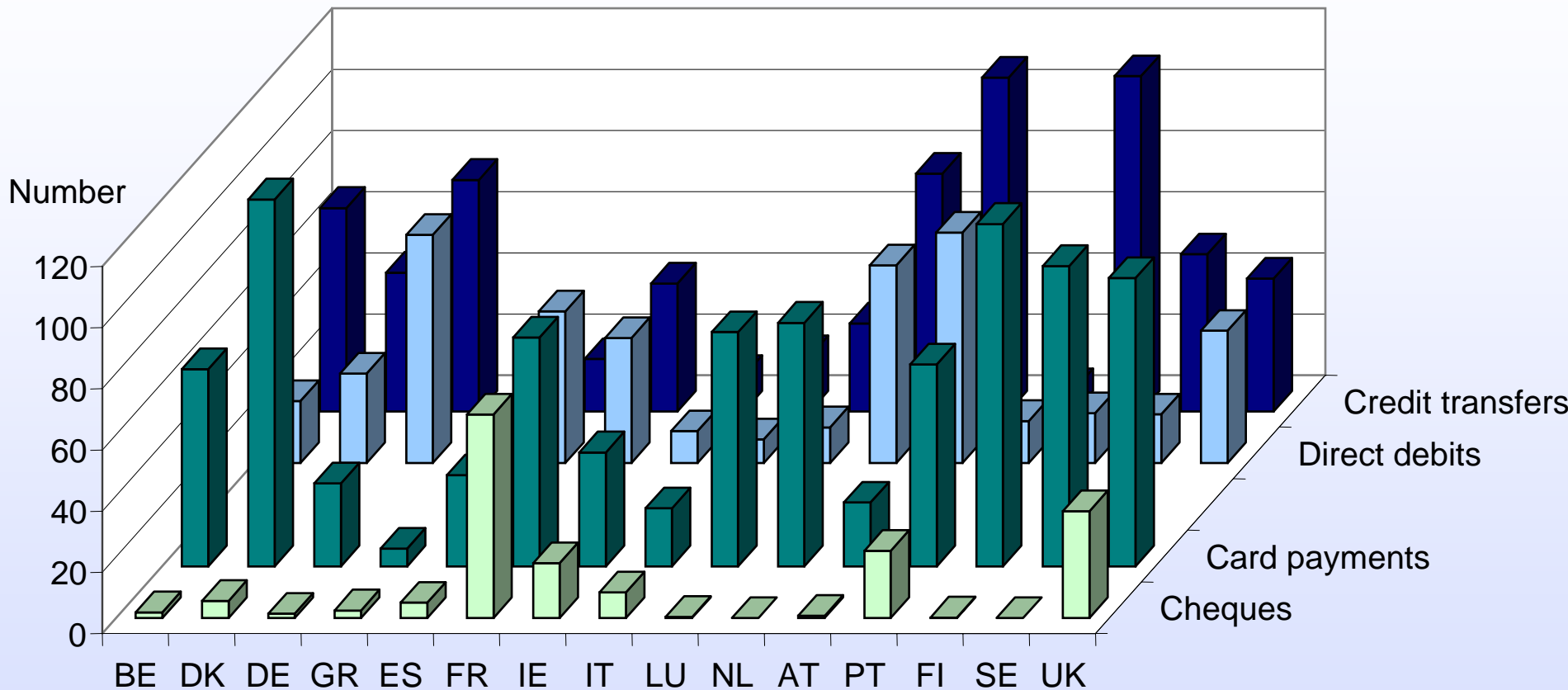
# Payment Service Developments – The Finnish Experience

Bank of Finland  
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12 December 2006

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and do not necessarily represent those of the Bank of Finland



# Number of cashless payments per inhabitant in EU15 countries, 2004



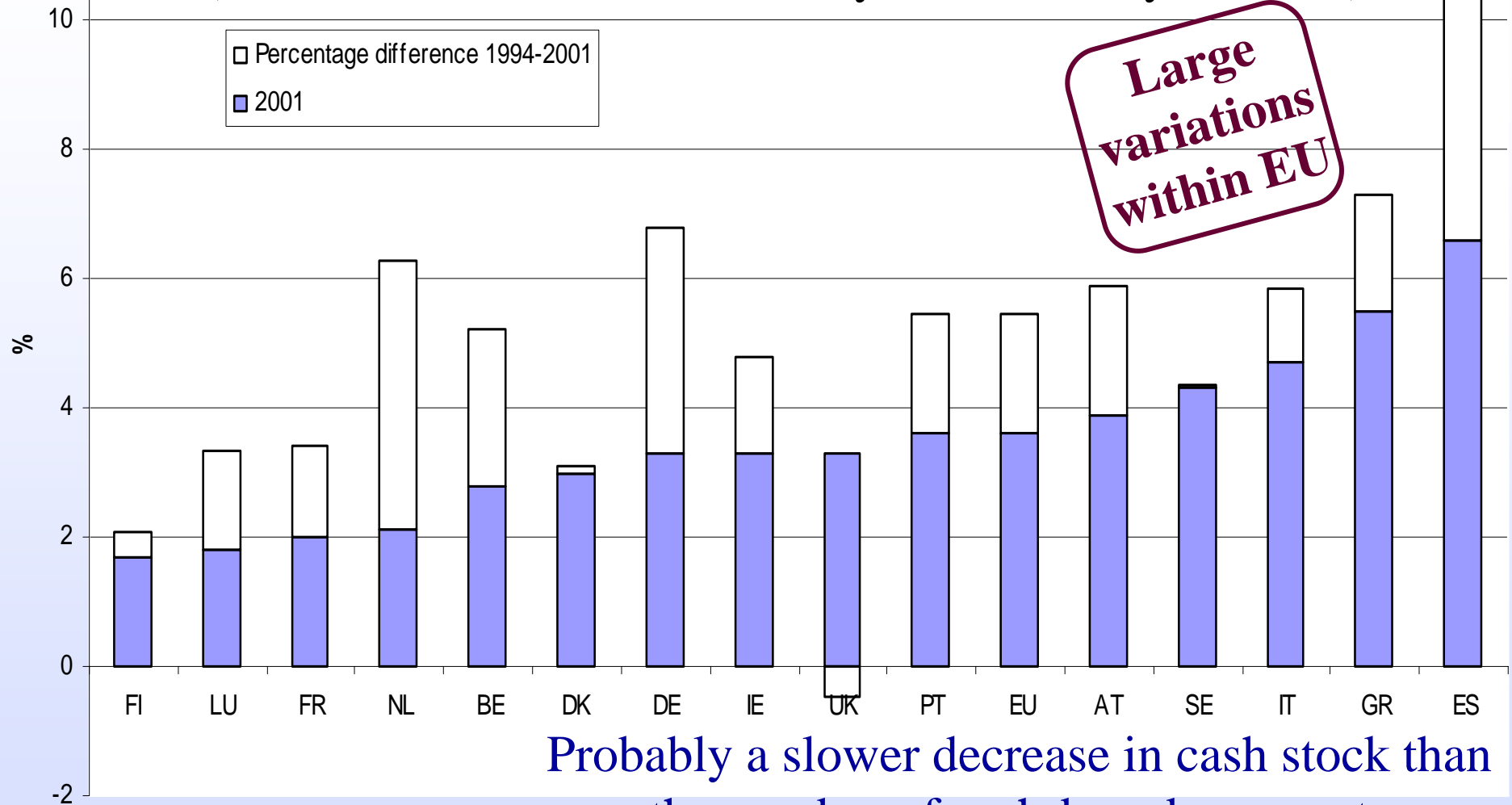
**Large differences in national payment habits in Europe**

Data source: ECB Blue Books.



# Relative amount of cash decreases

Cash stock as percentage of GDP in EU, 1994 and 2001  
(national statistics available only until end of year 2001)



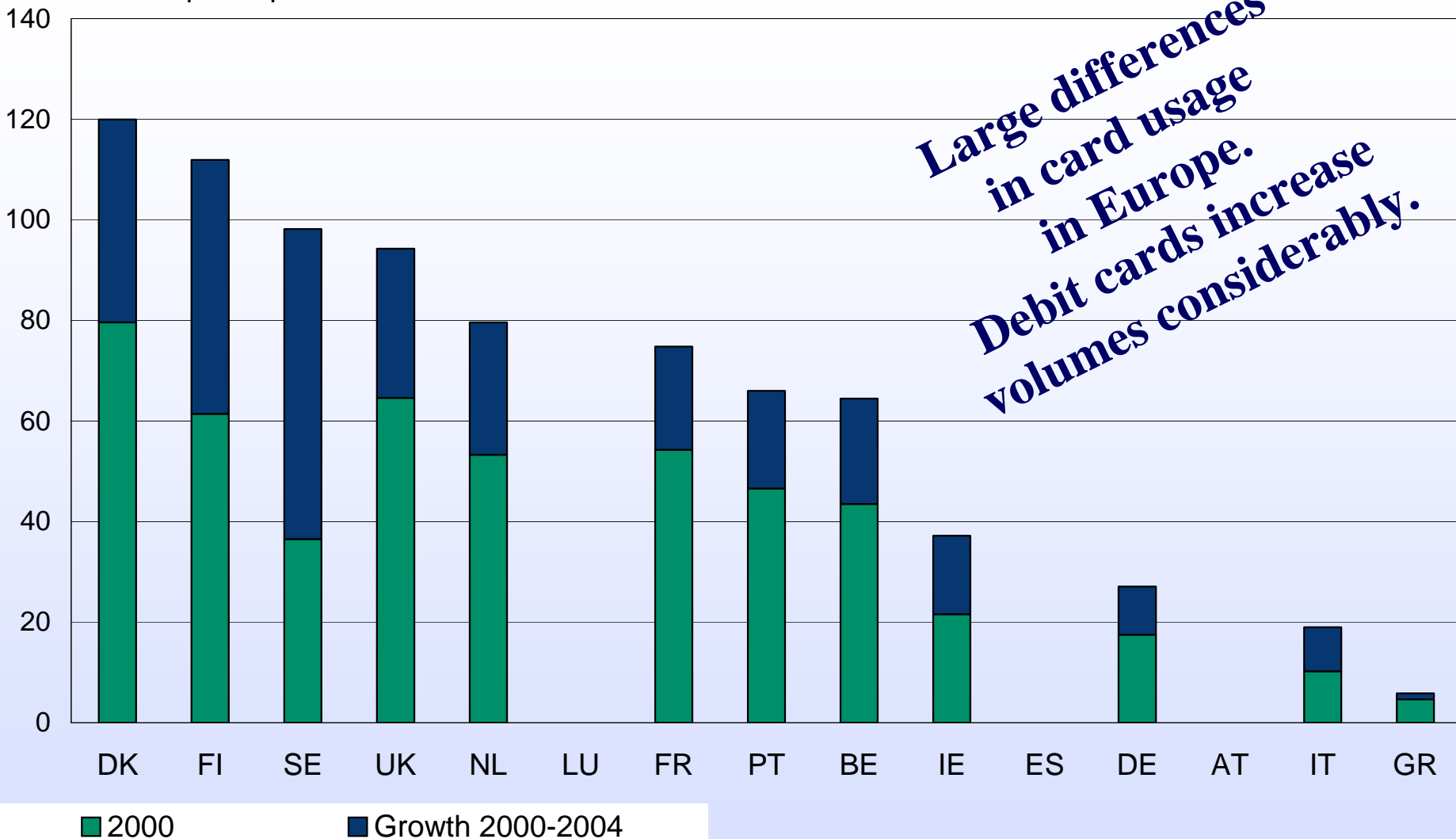
**Large variations within EU**

Probably a slower decrease in cash stock than the number of cash-based payments



# Number of card payments per capita

Number per capita



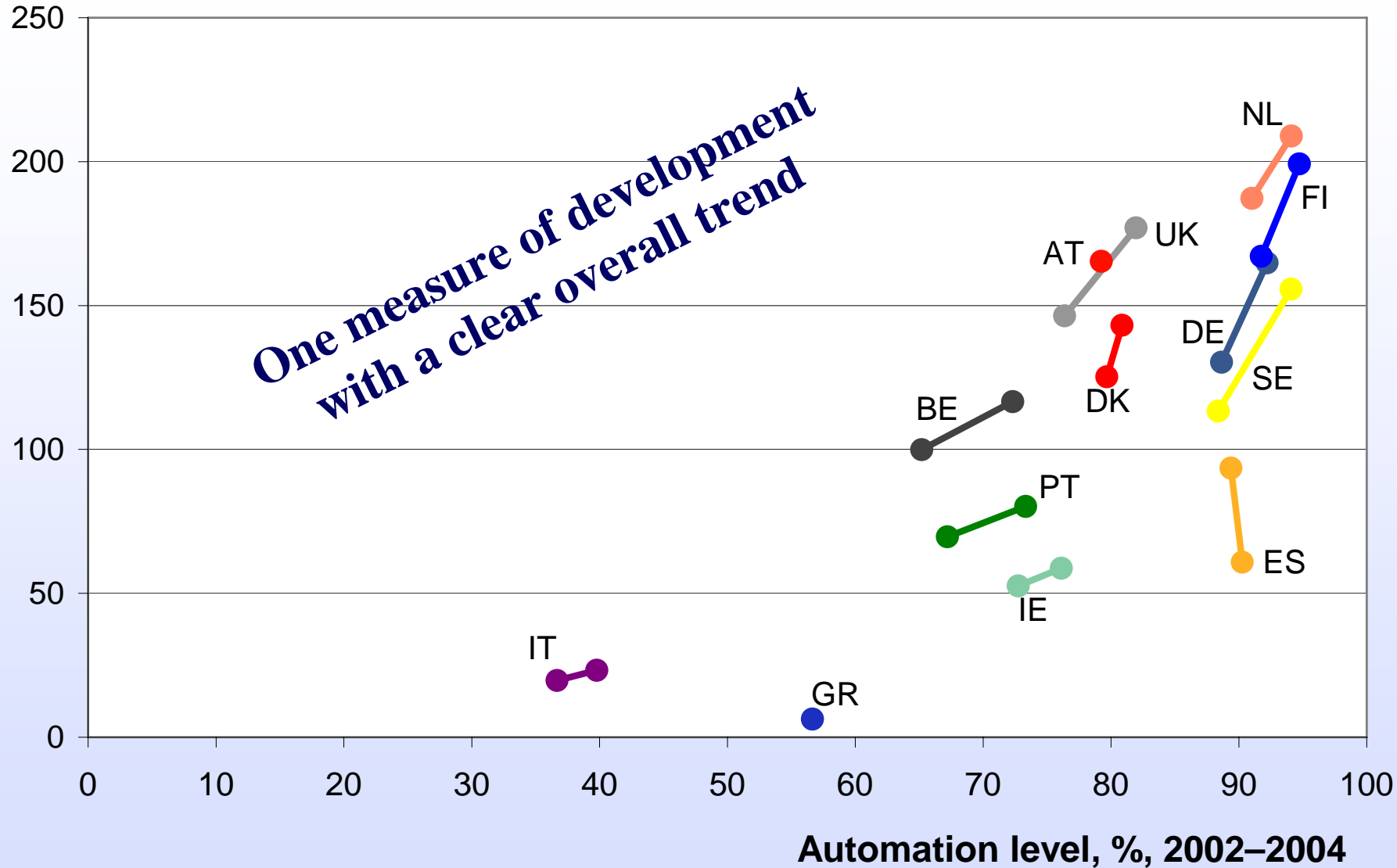
Note! Some statistics methodology differences

Source: ECB's Blue Book, March 2006.



# ePayment developments per capita and automation level

Number of electronic payments per capita, 2002–2004



Source: European Central Bank, Bank of Finland.



# Payment developments

- ▶ Reduced transportation costs/tariffs
  - Problem: Cross-subsidisation hides costs
- ▶ Increased delivery speed
  - Problem: Slow delivery increases banks' float income
- ▶ Improved security
  - Problem: Continuous race against e-criminality
- ▶ Enhanced user interface efficiency
  - Problem: Non-standardised solutions hinder mobility
- ▶ Versatile user integration support
  - Problem: Standardisation may slow down developments

***Lack of competition and incorrect incentives  
delay payment system developments***



# Finnish experiences and lessons

1. Customer tariff incentives facilitate change
2. Standardisation creates critical mass
3. New services require joint marketing/support
4. Authorities need to lift regulatory barriers
5. Customer-to-bank integration creates user benefits
6. E-invoicing is the next big cost-saving feature

***Key requirement: Increase and maintain competition  
with sufficient stability in the system***



# 1. Transparent pricing lessons

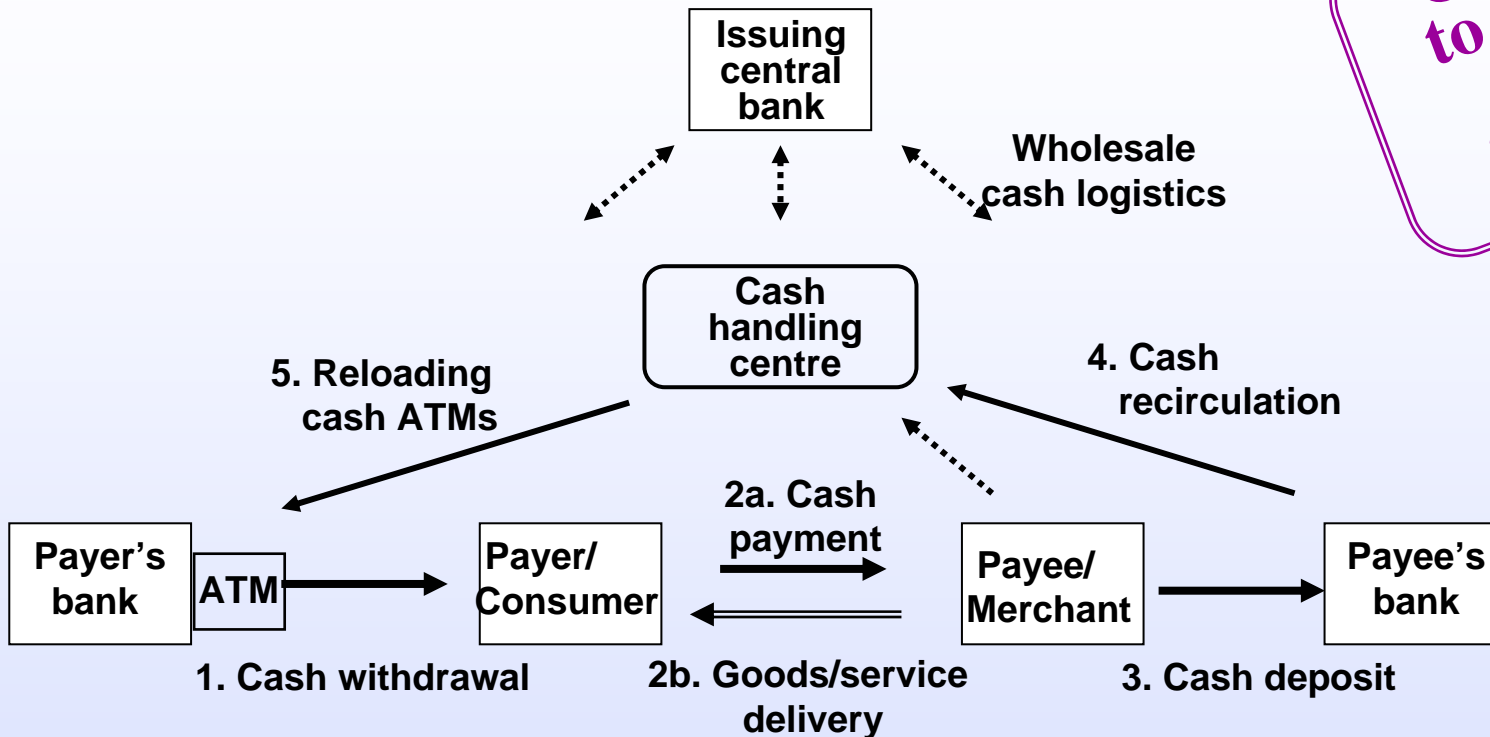
- ▶ Private cheques replaced by debit cards in 3-4 years when cheque forms were priced at about 10 cents/cheque
- ▶ Debit cards replace credit cards and cash, when merchant fees (and payer fees) are based on costs
- ▶ Customers move faster to e-banking when teller service is priced according to costs
- ▶ Public authorities also move to electronic format when budget resources can be saved

*Customers will select services according to own needs.  
Cash will only be used for small payments  
(and unfortunately for grey and black payments)*



# Expensive one-time usage of cash

Cash needs to be priced and not subsidised



*Withdrawing cash in supermarket ATMs for payment to cashier is expensive compared to direct card payment to cashier!!*



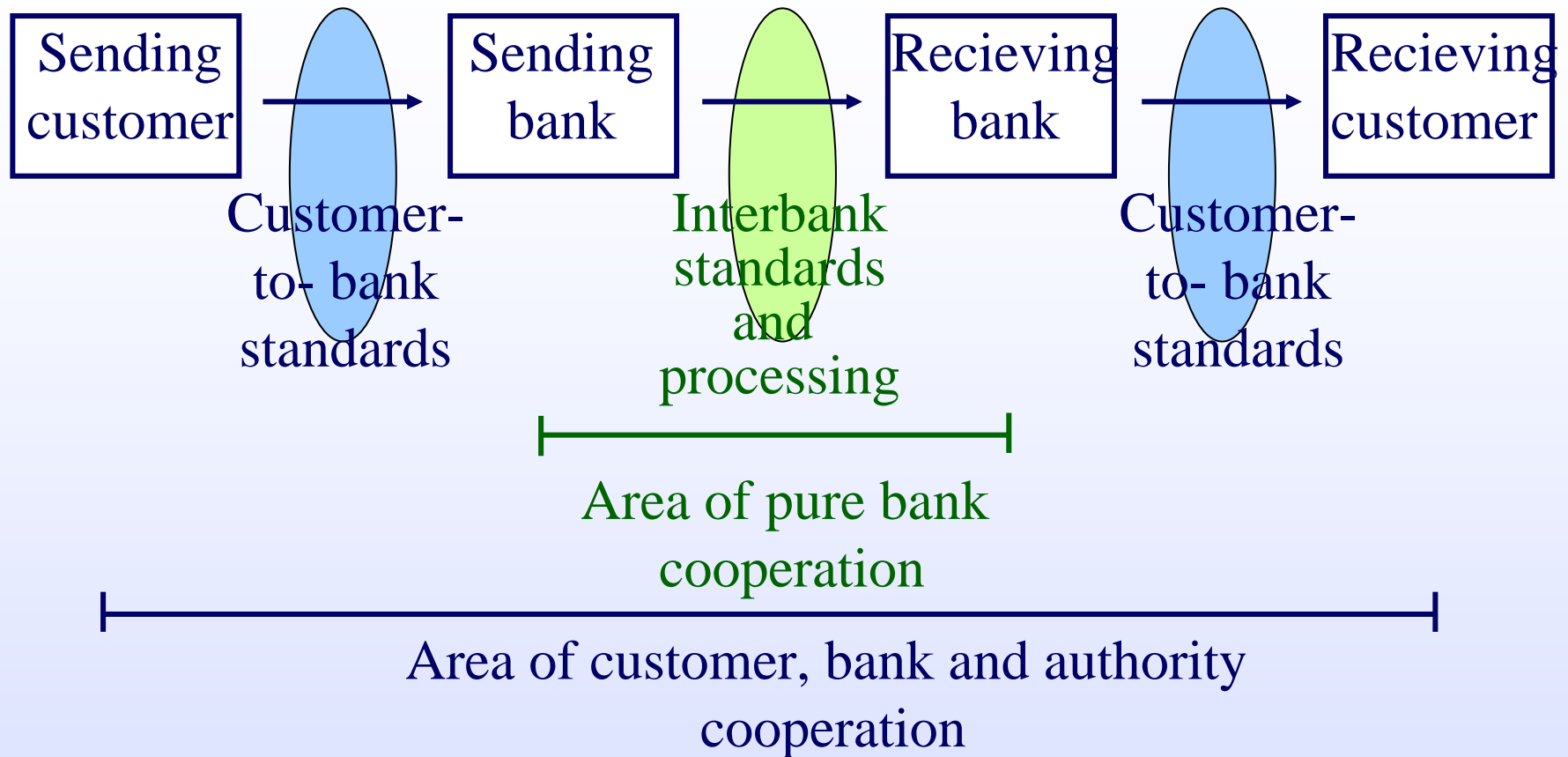
## 2. Standardization lessons

- ▶ Credit transfers need standards for salaries, pensions, social benefits etc
- ▶ Credit transfers need standards for invoice payments including structured standardised remittance information
- ▶ EFTPOS terminals need to be standardised
- ▶ Bank-provided standardised direct debit mandate handling will increase payer and payee interest
- ▶ Standards create supply of software and services for users
- ▶ Standards will need to be updated over the years
- ▶ Standardisation body required (Finnish Bankers' Association)

*Standardisation creates the basis for critical mass.  
Messy or non-standards only create costs for all parties.*



# Payment transportation service



*Content of interbank standards should depend on customer standards established via customer involvement (and not the other way around)*



# Necessary customer-to-bank payment standards

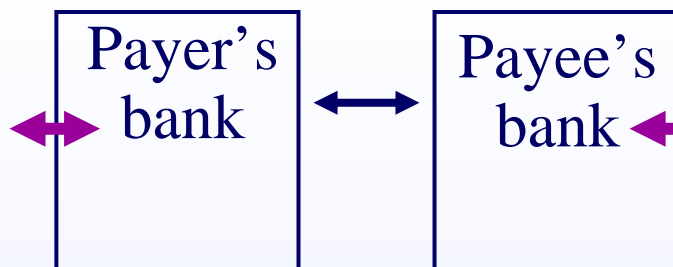
## Payer

### Sending

- credit transfers
- sending direct debit mandates
- accepting e-invoices

### Receiving

- e-invoices
- direct debits
- card payment info
- statements of accounts



## Payee

### Sending

- e-invoices
- direct debits
- card payments

### Receiving

- payment notifications
  - credit transfers
  - direct debits
  - card payments
- direct debit mandates
- statements of accounts

*Common standards facilitate direct reuse of same data within payer's and payee's systems.*

*Common e-standards are the basis for efficiency.*



# Invoices with standardised giros is the common way of paper presentment

## Invoice part

## Adjoining giro



### Debetsedel för fordonsskatt

1(2)

Mottagare  
Leinonen Harry Leo

Jukolabranten 4 B 7  
02180 ESBO



70

Datum  
09.10.2006

Registertecken  
BBU-969

Fordonets märke  
TOYOTA

Tillverkningsnummer  
JT1WOAL2500207786

Skatteskylidig  
Harry Leo Leinonen

Kundkod för direktdebitering  
010076642

Referens  
1212310969628110

Servicekod för direktdebitering  
010317159

Fordonslag	Fordonsgrupp	Ibruktagningsår	Drivkraft	Totalmassa	Axelant
Personbil		1986	Bensin	1450 kg	2

**Fordonsskatten för tiden 08.10.2006 - 07.10.2007, delbetalning 1/1 för skatteperioden 08.10.2006 - 07.10.2007.**

Fordonsskatt grundskattel del för 365 dagar 0,260 euro/dag 94,90 euro  
Debiteras totalt 94,90 euro

Dröjemälsräntan år 2006 är 9,50 % dock alltid minst 3,00 euro.

Välj antal betalningsposter genom att senast på förfalldagen betala den summa som motsvarar antalet poster. Ni får en skattsedel för varje betalningspost.

5582

Delbetalningar	Betalas förfalldag 1	Delbetalning 2	Delbetalning 3	Delbetalning 4	Skatteperiod totalt
i 1 rat	94,90 euro				94,90 euro
i 2 rater	50,58 euro	50,32 euro			100,90 euro
i 4 rater	26,66 euro	26,66 euro	26,66 euro	26,92 euro	106,90 euro

Tillägg för betalningsätt är 3 euro per delbetalning, när skatten betalas i fler delar än en. Delbetalningarna i tabellen inkluderar tillägg för betalningsätt.

Fordonsförvaltningscentralen, Beskattning, PB 120, 00101 Helsingfors - Skatterdgivning 0100 7821 (Ina/msa) varje dag kl. 8-20 - Fax (09) 6185 3604 - verotus@ake.fi - www.ake.fi

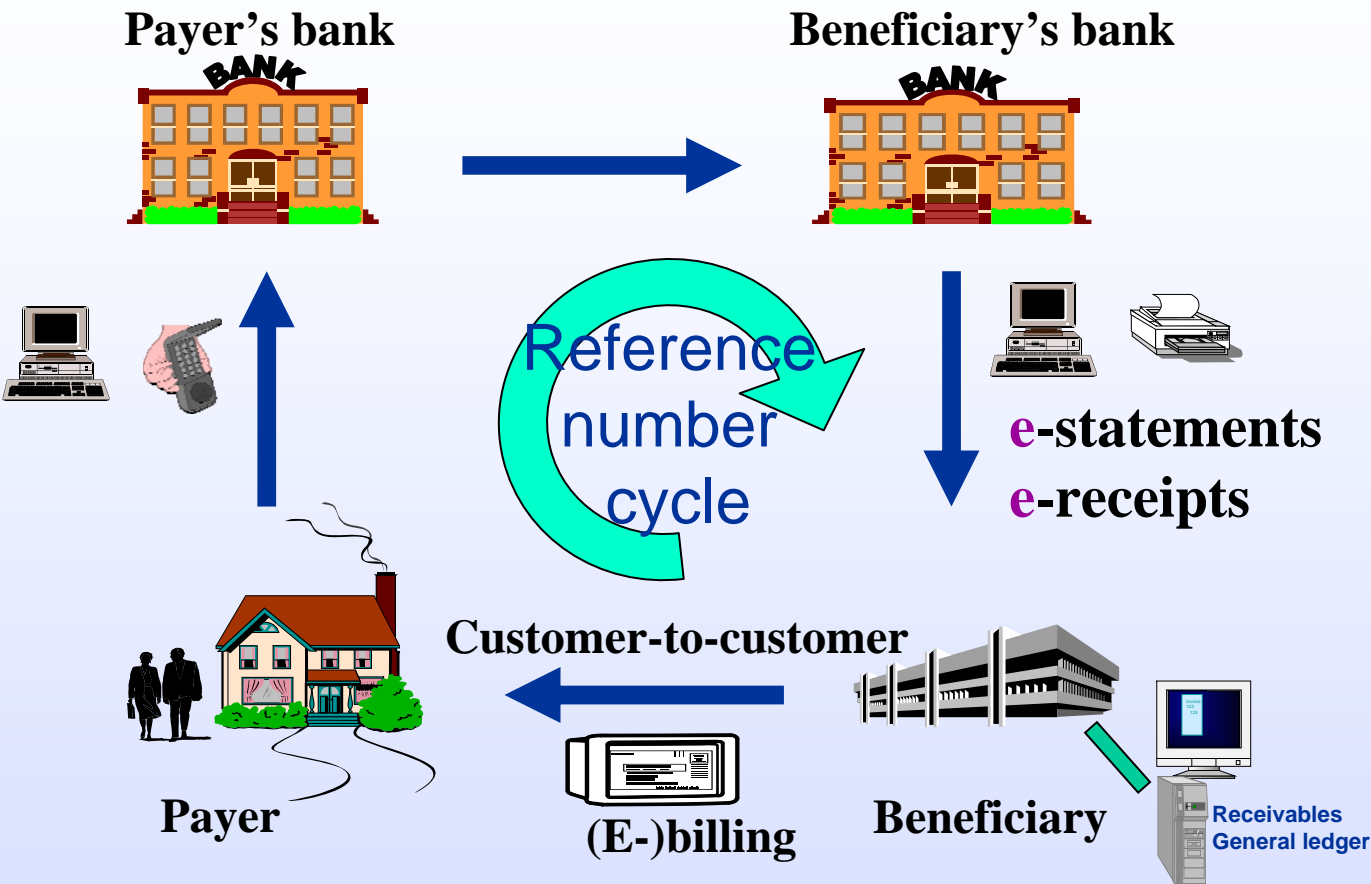
Saajan tilinumero Mottagarens kontonummer	Nordea 166030-116676 Sampo 800017-70928183 OKO 500001-2378954	<b>TILISIIRTO GIRERING</b> Makuu välitetään saajalle vain Suomessa Kotimaan maksujenvälityksen yleistien ehtojen mukaisesti ja vain maksajan ilmoittaman tilinumeron perusteella. Betalningen förmedlas till mottagare endast i Finland enligt Allmansa väcker för inrikes betalningsförmedling och endast till det kontonummer betalaren angivit.
Saaja Mottagare	Ajoneuvohallintokeskus Fordonförvaltningscentralen	
Maksaja Betalare	Leinonen Harry Leo  Jukolabranten 4 B 7 02180 ESBO	Registertecken BBU-969 Kundkod för direktdebitering 010076642
Allekirjoitus Underskrift		<b>Välj summa enligt det antal betalningsposter ni vill ha.</b> i 1 rat 94,90 euro i 2 rater 50,58 euro i 4 rater 26,66 euro
Tiilitä Från konto nr		Vitetro Ref.nr 1 21231 09696 28110
		Eräpäivä For dag 20.11.2006
		Euro 94,90



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12-10  
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BANKEN



# Structured payment reference = key to receiver integration



The reference number is given by the beneficiary and it follows the payment back to the beneficiary for automated update of receivables.

***Reference numbers are required by most invoicers***



### 3. New services require joint support (all banks and other stakeholders)

- ▶ New services need marketing and customer education
- ▶ ICT based services require ICT vendor support and interest
- ▶ Documentation and descriptions need to be available
- ▶ Clear customer benefits are necessary
- ▶ The snowball effect starts when the marketing is sufficiently credible
- ▶ Long-term high-level bank management attention & devotion

*Changing customer habits is a long-term project*



# 4. Removing regulatory barriers

- ▶ Possibility to truncate cheques (in 1972)
- ▶ Possibility to archive data in electronic form only
- ▶ Possibility to use electronic bank statements as part of accounting registers (general ledger)
- ▶ Tax authorities accept electronic statements and invoices
- ▶ Acceptance of banks e-identification solutions for both banks' services and public services
- ▶ Requirement for clear pricing information
- ▶ Pricing central bank cash services
- ▶ Allowing limited payment services for merchants/TELCOs

*Regulatory barriers can hinder developments  
by supporting old service forms and  
forbidding/hampering new forms in different ways*



# 5. Customer interfaces

- ▶ Direct payment of salaries, pensions and benefits to accounts as the basis for change undertaking in 1960s
- ▶ Standardised paper forms and envelopes for invoice payments in 1960s (Compare with the IPI International Payment Instruction)
- ▶ Magnetic tape interfaces for corporate customers in 1970s
- ▶ Network interfaces in 1980s and the big internet/web-boom in 1990s for all customers
- ▶ Merchant EFTPOS-interfaces
- ▶ Automatic reconciling services (references)
- ▶ Standardised accounting interface and codes
- ▶ Standardised e-invoicing interfaces

*Customer greatly value automatic integration*



## 6. E-invoicing lessons

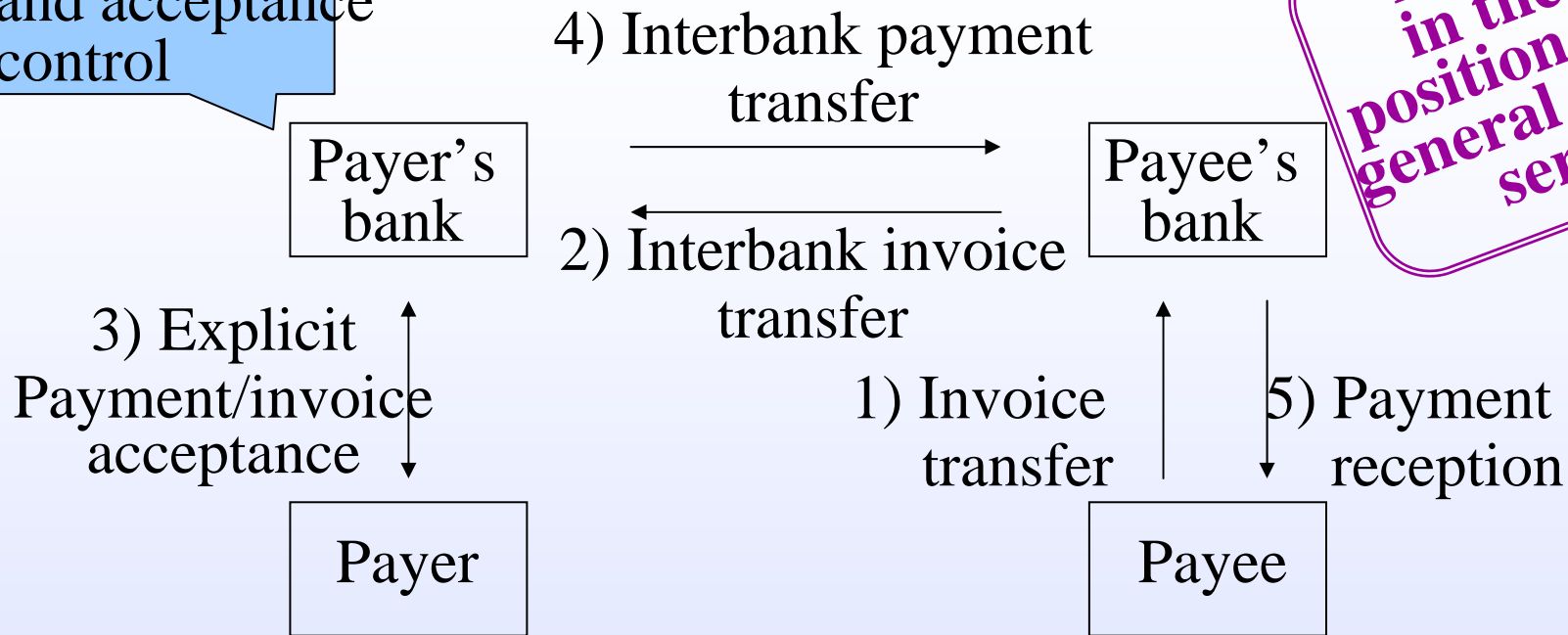
- ▶ Constant linking of complete invoicing data and payment instruction
- ▶ Same common standard for all payment types to reach end-to-end straight-through-processing
- ▶ Same e-data reused (without any intermediary manual paper processes)
- ▶ Software investments can be shared
- ▶ Savings per invoice EUR 10–30. (Total benefits in EU area over EUR 100 billion, with 55 billion non-cash payments)

*e-Invoicing offers the greatest single cost-saving potential in the payments industry (the costs of modern technology is low, compare with the cost of sending emails!)*



# SEPA e-billing via bank system

Customer ID  
and acceptance  
control

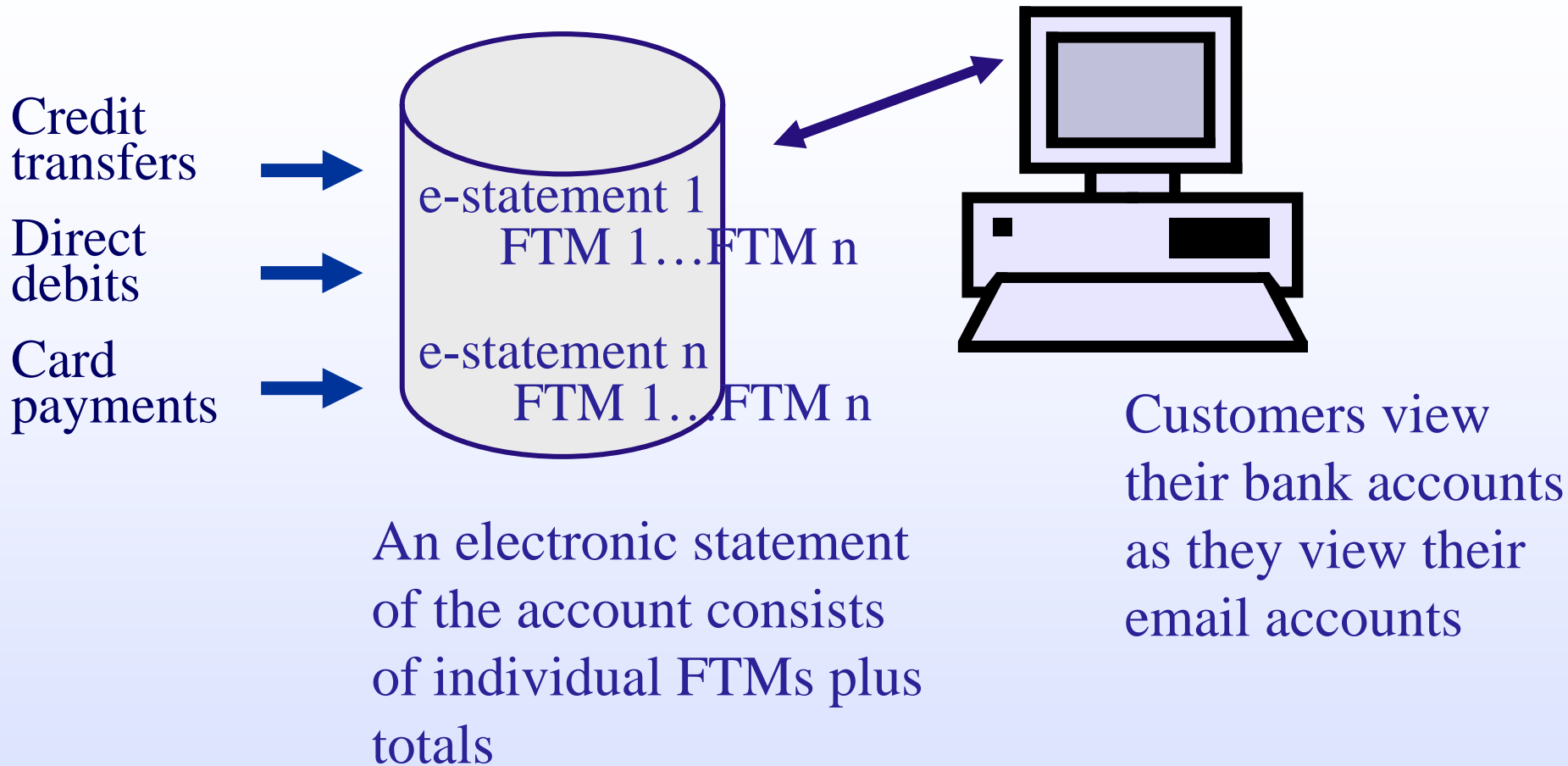


Banks are  
in the best  
position to offer  
general e-invoice  
services

*e-Invoices transferred via banks from payee to payer  
for explicit acceptance as part of payment service .  
Routing based on payer and payee IBANs.*



# E-account statements = e-invoice archives



*Easy browsing for invoicing information from banks' systems or customers' copies of e-statements.*



*The SEPA process will probably be lengthy  
and general efficiency will increase slowly*

*Rapid implementation and efficiency increases  
will require national implementation efforts and  
focus on modern additional optional services*

*It seems easier to muster and master  
coordinated payment service improvement projects  
in small countries with limited stake holders  
and where scarce resources needed to be economised*

