Viva the all-electronic euro!

Reflections on the road towards the cashless society

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ECB CONFERENCE
on E-payments in Europe
19 November 2002, Frankfurt

Outline

1. Current state of EPs in Europe
2. Should we move to a cashless society?
3. If so, how?

1. E-purses in Europe

- first round-up in 2000, now updated
- covers 16 EP schemes, to varying degrees
- not updated: miniCASH, Moneo, MEP, 4B
1. E-purses: cards

- not very relevant
- miniCASH, Chipknip
- Proton city-by-city
- # cards not problem

1. E-purses: activated cards

- less data
- different picture
- activated ≠ active
- Proton, but miniCASH ...
1. E-purses: terminals

- 2 > Proton
- Proton: ‘euro jump’

![Graph showing the growth of different e-purse systems across Europe.](image)

1. E-purses: frequency

- low overall level
- only Proton > 1
- euro impact
- Proton miniCASH Quick

![Graph showing the frequency of transactions for different e-purse systems.](image)
1. **E-purses: freq., activated**

- overall level higher
- Quick, Cash (CH)
- + Proton, miniCASH, Moneo

![Graph showing E-purse frequency and activation levels]

1. **E-purses: float**

- Proton most advanced
- euro impact for some
- GeldKarte, Danmønt =
- Cash (SE): drop in float

![Graph showing E-purse float levels]

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1. E-purses: trx per capita

- similar picture
- as % of currency ...

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1. E-purses: euro effect

- **positive** effect (Dec 01-Jan 02)
  - miniCASH (+84%), Chipknip (+65%), Quick, Proton (+60%), Moneo (“double”)

- **no** effect:
  - Cash (CH), Cash (SE), Danmønt, MINIpay, Geldkarte (+2%), Euro 6000

- **negative** effect: Avant, Visa Cash

>>> hypothesis: (lack of) critical mass <<<
1. E-purses: winners/losers

- "~ NE theory: # terminals & # cards
  miniCASH > Proton  OK
  Geldkarte < Proton  OK
  Chipknip < Proton  ?

- incompatibility may prove detrimental

- converted POS terminals of little use ...

2. A cashless society?

- arguments in favour
  - increased efficiency
  - the underground economy

- arguments against
  - social exclusion; P2P?
  - privacy
  - security
2. Pros: efficiency

- resource cost of cash is high
  0.35%-0.56% in BE

- conviction: social cost of e-purse is lower

- but: no proof …

- early cost studies: cash cheapest for merchants

2. Pros: efficiency

- new Dutch cost study

- average cost of e-purse is dropping
  
<table>
<thead>
<tr>
<th>Year</th>
<th>Cash</th>
<th>E-purse</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>0.139</td>
<td>0.216</td>
</tr>
<tr>
<td>2001</td>
<td>0.135</td>
<td>0.192</td>
</tr>
<tr>
<td>2002</td>
<td>0.146</td>
<td>0.158</td>
</tr>
</tbody>
</table>

- 19 vs. 14 seconds
2. Pros: efficiency

- marginal cost of e-purse is lowest

![Chart showing marginal costs for different payment methods]

- still room for economies of scale

- Dutch retailers call for ‘chip explosion’!
2. Pros: underground

- in BE: some 60% of C not used for legal trx
- similar in other countries
- will only become worse ...

2. Cons

- social exclusion
  - but: network of cash is already eroded
    - in BE: coins in only 30% of public payphones
    - in NL: municipalities collect parking fees electronically
- privacy
  - Goodhart: Orwellian nightmare
  - e-money can be programmed => strike balance
- security (cash as fallback option)
2. Conclusion

- E-money should be promoted  OK
- Cash should be discouraged  OK
- Cash should be abolished  ?

3. How?

Do we need government intervention?

“If the private sector (unaided) attempt to introduce an e-money payment system is … faltering badly, should the public sector step in to revive this exercise?” (Goodhart et al., 2002)
3. How?: range of options

- market-driven / mixed / govt-driven
- SELT in Singapore
- promotion of cost-based pricing

3. SELT

- **no** obligation to accept
  - as in US, the Netherlands
    “Retailers are … within their rights to specify the types of payment they will accept … because consumers are negotiating an exchange, not repaying an existing debt” (CBO, 1996)
- BCCS will continue to issue physical cash
  - SELT by 2008, but timing flexible
  - public acceptance is key
3. SELT

- only BCCS will issue SELT
  - banks will procure SELT from BCCS
  - BCCS will take over NETS - CashCard

- AAA, will include P2P and possibly interest!

3. SELT: evaluation

[ ] = extreme scenario

- 'negative fees’ provide stimulus
- social cost of cash lower / [eliminated]
- [The underground economy]
- social exclusion, privacy, security
- government intervention
3. **Cost-based pricing: why?**

- **today**
  - account-based, fixed fees $\Rightarrow$ MC = 0
  - underpricing of cash
  - hidden charges
- **drawbacks**
  - unfair, cross-subsidisation
  - misallocation, overuse

3. **Cost-based pricing: how?**

- **cost-based pricing**
  - explicit, transaction-based
  - fees $\sim$ resource costs
- **advantages**
  - fairness
  - gives incentives $\Rightarrow$ efficiency
3. Recent developments

• public debate in the Netherlands

• DNB recommends optional direct pricing
  • consumers against
  • banks: mixed reaction

• DNB: more research on social costs

3. Recent developments

• CPSS consultation paper
  • “does not concern itself with any policy issues arising from the use of cash”
  • “pricing structures that reflect appropriately the level and allocation of costs” => efficiency
  • market mechanisms primary engine
3. Recent developments

- ECB issues paper
  - narrow scope; emphasis on standards
  - suggestion: collect data on prices
- European Commission
  - “we will not tolerate cartels”
  - “Brussels competition authorities have promised tough action if they uncover concerted price increases”

Conclusions

1. some EPs are doing better (euro)
2. use of e-money should be encouraged
3. pricing moving to centre stage
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More info

• Interested in paper(s)?
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• Bibliography on e-money (1500+ ref.)
<http://epso.jrc.es/>, under Inventory

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