

# Costs in the Norwegian payment system 2007

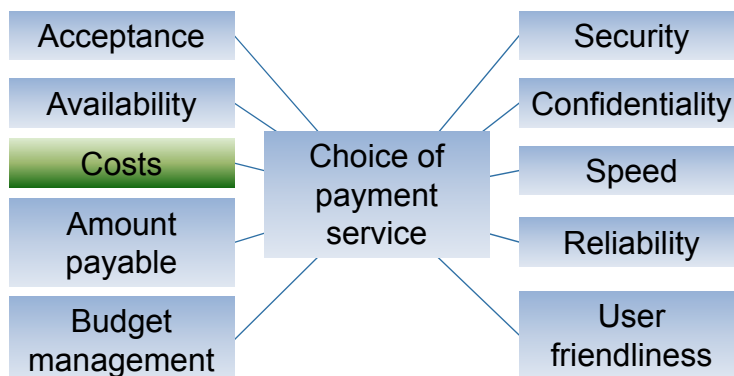
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*Bank of Finland  
August 27 2009*

## Motivation

- “Norges Bank (...) shall (...) promote an efficient payment system” Norges Bank Act Section 1
  - efficient payments are fast, reliable / safe and cost efficient
  - This analysis provides data on costs

## Efficiency: more than costs?



Each of these elements affect the payer, payee and processor / service provider differently. Different payment instruments provide different benefits and costs

## What we want to know

- What is the costs of payments to:
  - the society?
  - to the producers?
  - to the users?
- What is the development over time?
  - bank surveys 1988, 1994, 2001

## Scope

- All costs related to payment services and cash handling
  - Cash, card and giro / bill payment
- Social costs
- Private costs (per agent: production and use)
- Average unit costs for all services
- Costs relative to unit prices and total income
- Agents
  - Banks, Households, Merchants, Subcontractors, Central Bank

## What this study does not calculate

- International or cross-border payments
- Marginally important payment services
  - cheque, e-money etc.
- Interbank payments (SWIFT etc.)
  - But small-value payments clearing and settlement included
- Agents not included: Bill issuers

# Data

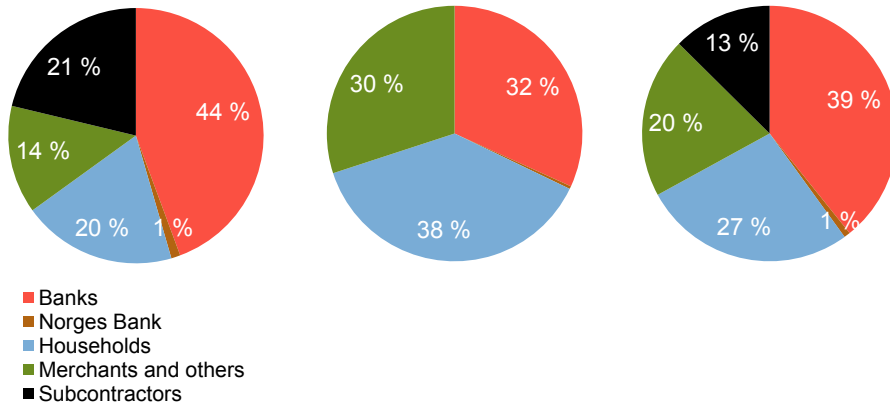
- 3 surveys
  - Banks (cost)
  - Households (habits)
  - Merchants (cost and time)
  
- Statistics
  - Norges Banks payment statistics
  - Statistics Norway: population, salaries, financial accounts etc

# Social cost methodology

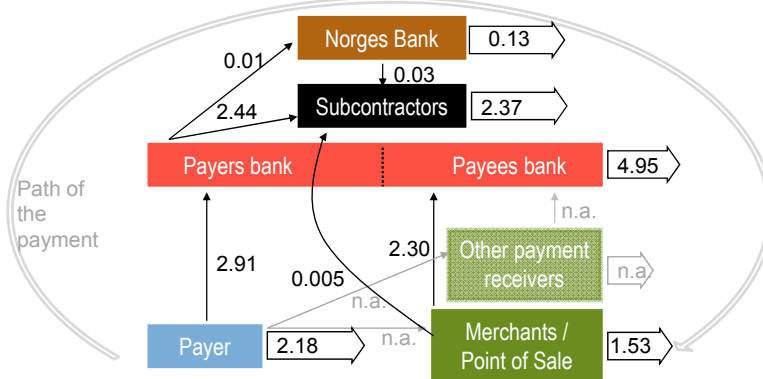
1. Calculate private costs per agent
  - Own production cost
  - Fees paid (subcontractor cost)
  - Fees received
  
2. Deduct fees /subcontractor costs
  
3. Sum of own production cost per agent = social cost

# Agents' costs

**Social cost** NOK 11.2 billion + **Paid fees (etc)** NOK 7.7 billion = **Private cost** NOK 18.8 billion



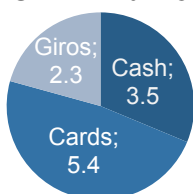
# Social cost: distribution



- Social cost: NOK 11.16 billion, 0.49 % of GDP
- Fees/subcontractor cost: NOK 7.68 billion
- + → Private cost: NOK 18.84 billion

## Social cost; services / instruments

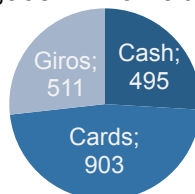
**Social cost:**  
NOK 11.2 billions



Withdrawal / deposit cost:  
NOK 3 billion

Cash payment cost:  
NOK 0.5 billion

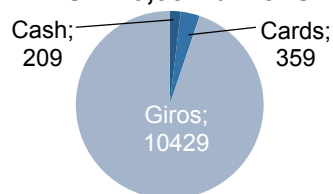
**Volume:**  
1,908 million trans.



Withdrawals /deposits:  
210 million

Cash payments:  
285 million

**Value:**  
NOK 10,997 billions



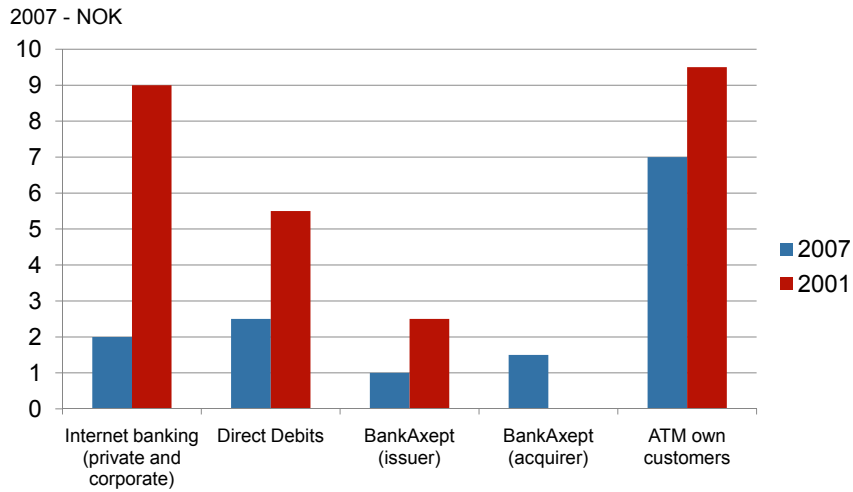
Cash payments:  
NOK 62 billion

ATM withdrawals:  
NOK 119 billion

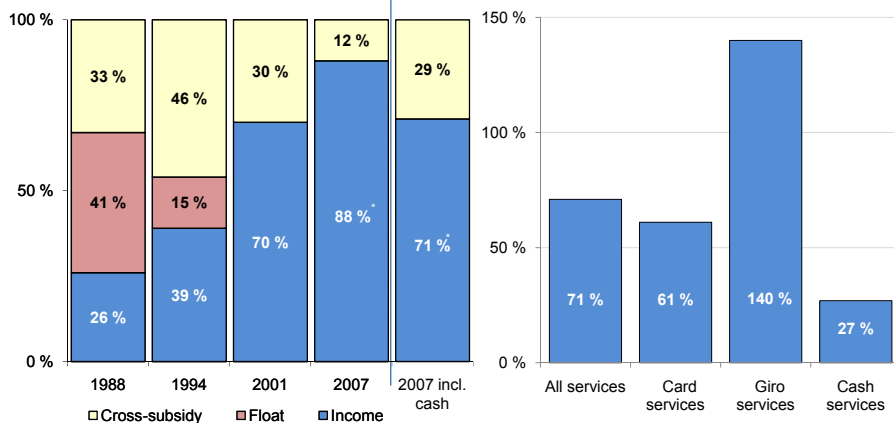
## Other cost surveys – results

Country (Year)	Agents	Services	Costs as % of GDP
Norway (2007)	Banks, merchants and households	Cash, cards, giro	0.49 %
Portugal (2005)	Banks	Cash, cards, cheque, giro	0.77 %
Sweden (2002)	Banks, merchants and households	Cash, cards	0.40 %
Belgium (2003)	Banks, merchants	Cash, cards, e-money	0.74 %
The Netherlands (2002)	Banks, merchants	Cash, cards, e-money	0.65 %

## Banks' unit cost (selected services)

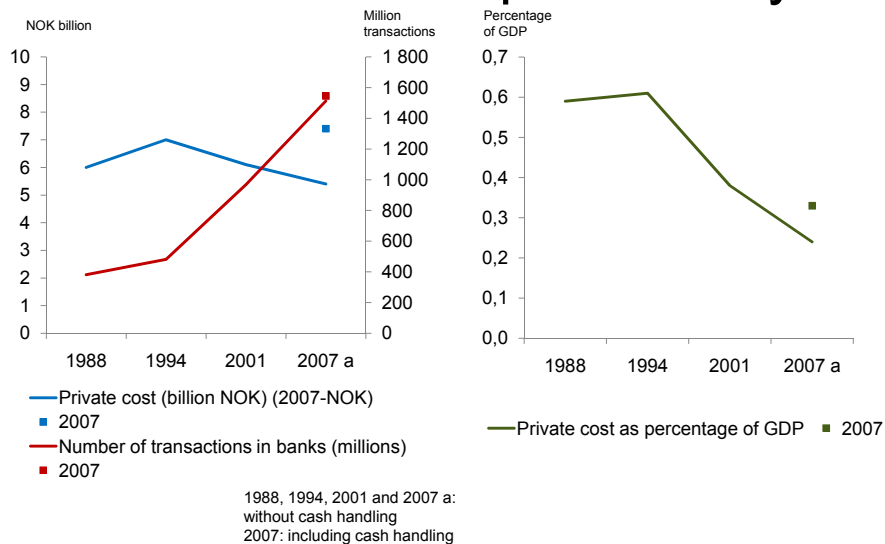


## Banks cost recovery on payment services (%)



\* Interchange fees between banks are excluded in 2007

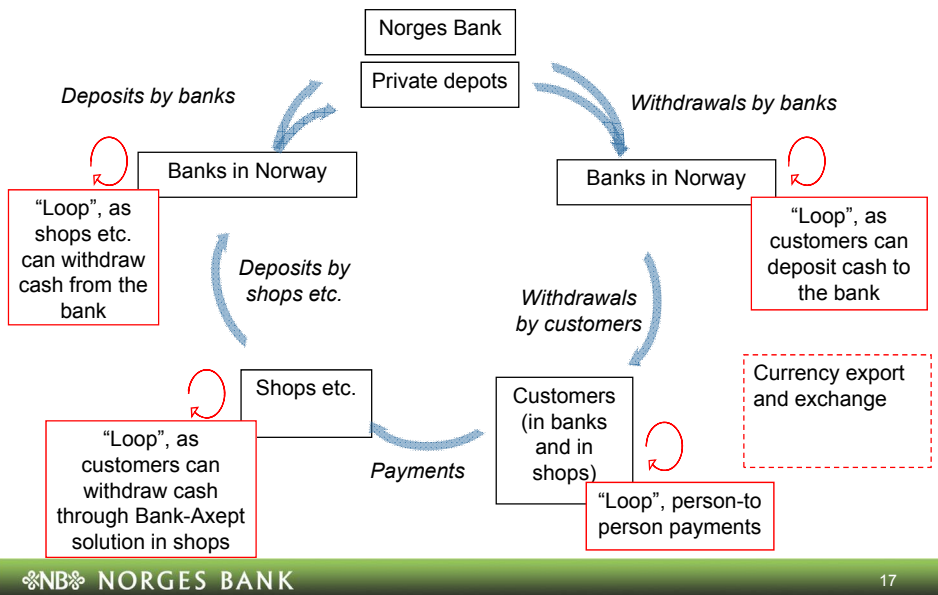
## Banks: Increased productivity



## Implications

- Time cost is very important
  - Reduced time when paying reduce costs for all services
  - Examples: PIN better than signature, electronic better than manual
- Price model is important
  - BankAxept payments: fixed fee structure
  - International card payments: percentage to value fee structure
- All agents carry costs
  - Also for cash (of course)
  - "Super-profit" possible in some schemes

## Cash circle



## Further research

- Investigate benefits to the society (we only investigate costs)
- Investigate price model of cards (and giro)
- Estimation of the number of cash transactions
- Improvements to merchant and household surveys
- Costs for bill issuers / giro issuers

## Conclusions

- Social cost is low
  - NOK 11.2 billion
  - 0.49 % of GDP
- Cost efficient payment system
  - Electronic services
  - Bank-Axcept price model
- Low cash use
- High productivity in banks

## Additional slides

## Banking survey

- Full cost, using Activity Based Costing Calculation
  - Direct / Indirect cost, but also other distributions possible
- 12 banks (55 % market share), 1 acquirer
  - Start: 2006. Registration: 2007. Finish: May 2008
  - Registration of statistics decided the timeframe
- Very detailed. 35 (26) services. High quality.
- Useful for banks themselves, but also complicated
  - Works well when banks are motivated to respond

## Household Survey

- Payment *habits*, not costs
- 1200 replies, representative to population age 15+
  - One week in September 2007, omnibus, market research company
  - How many payments did you do yesterday? Where? How?
- Detailed on habits. 9 services (cash and cards). High quality to answers.
  - Alternative: Payment diary
- Information necessary to calculate costs:
  - Time spent paying (merchant survey time study)
  - Time spent withdrawing / depositing cash (assumptions)
  - Salaries statistics (SSB)

## Merchant Survey

- Full cost, based on subcontractor and in-house costs.
  - Not ABC, but possible to calculate Variable / Fixed or Direct / Indirect cost
- 147 replies / 696 businesses. Low response rate
  - Two cost surveys for September 2007
  - Time study in January 2008
- Detailed. 4 services, card and cash costs
  - Moderate to low quality on answers

## Statistics

- Norges Banks Annual Payment System Report
  - No. of transactions
  - Value of payments and cash withdrawals / deposits
- Population (Statistics Norway)
  - No. of Norwegians age 15+
- Financial accounts (Statistics Norway)
  - Banks costs and income
- National Accounts (Statistics Norway)
  - Household consumption
  - GDP
  - Salaries (income to households, costs to merchants)

## Social cost calculation

1. Identify **unit cost** per service per agent (surveys)
2. Multiply by **number of transactions** for Norway (statistics)
3. = **private cost** per service per agent for Norway
4. Private cost for each agent = sum of private cost for all services per agent
5. Deduct **fees** and **subcontractor costs**
6. Gives **own production cost** per agent
7. Sum of own production cost for all agents are **social cost** (per service)