

# The Costs of Paying – private and social costs of cash and card payments

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## Objectives

- Estimate private and social costs of cash and card payments in 2002
- Compare optimal and observed use of cash and cards:
  - Estimate value thresholds above which social (private) costs of card payments are lower than social (private) costs of cash payments
  - Compare social optimum thresholds with observed users' choices

## Findings

- Social costs cash and cards 0.4 % of GDP
- Per payment social costs SEK:

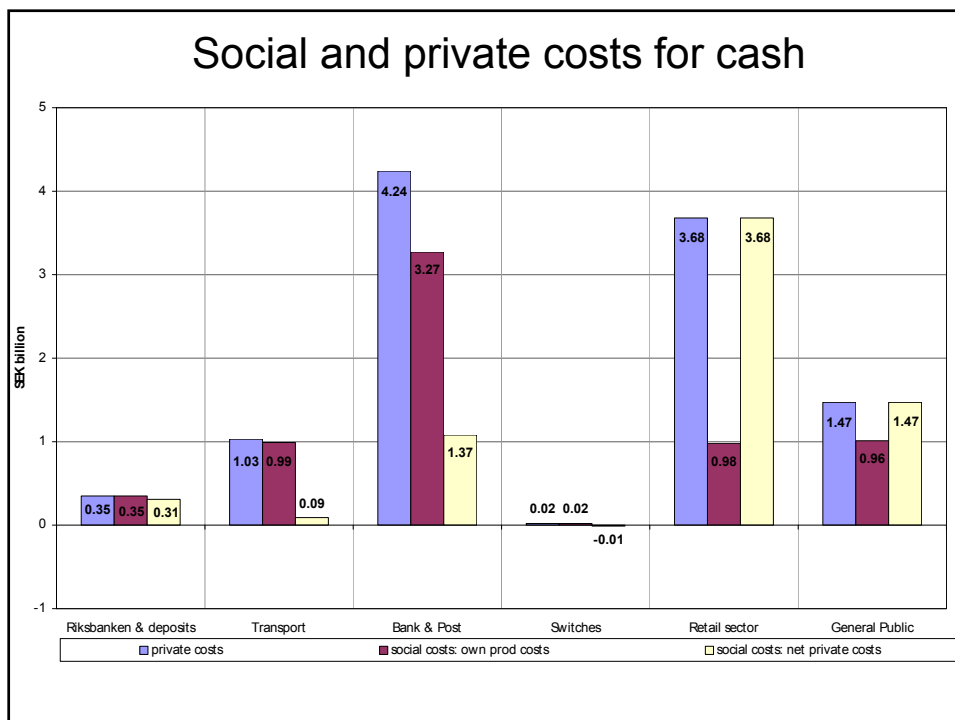
4.6	3.0
(cash)	(debit/credit card)
- Social thresholds:  
> SEK 69 deb. card > cash
- Observed behaviour:  
private thresholds higher  
average cash payment SEK 165  
age dependent

## Related literature

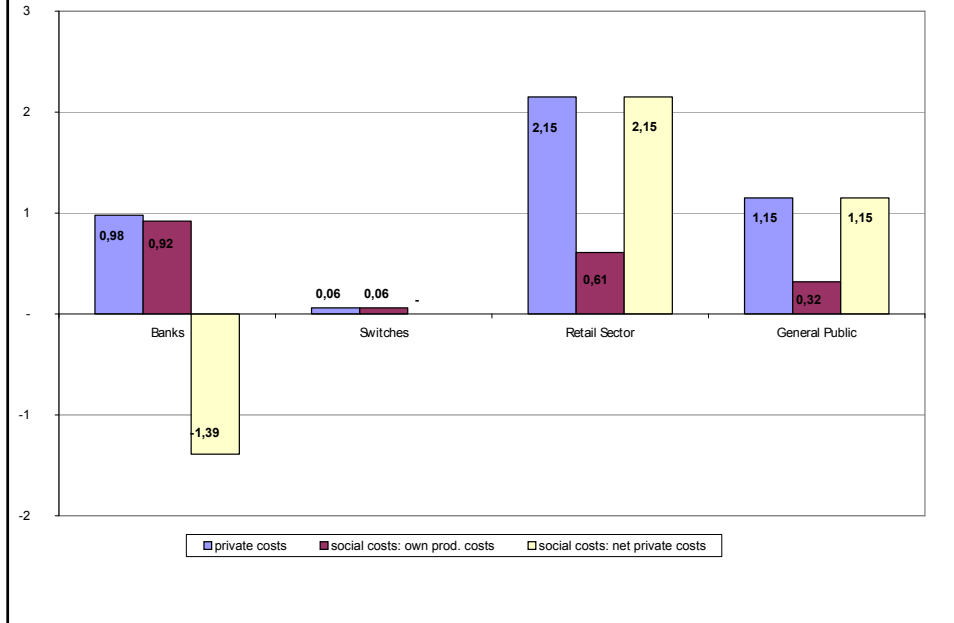
- Garcia Swartz et al. (2006)
- Gresvik and Öwre (2003)
- Brits and Winder (2005) (thr. SEK 105)
- ten Raa and Shestalova (2004) (thr. SEK 117)
- Guibourg and Segendorf (2004)

## Supply chain, private and social costs

- Private costs
- Social costs:
  - i) private costs – fees paid  $\Leftrightarrow$  own production costs
  - ii) private costs – fees received  $\Leftrightarrow$  net private costs



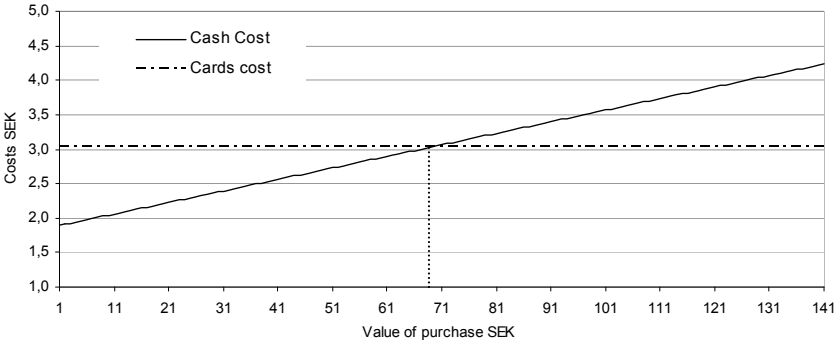
## Private and social costs cards



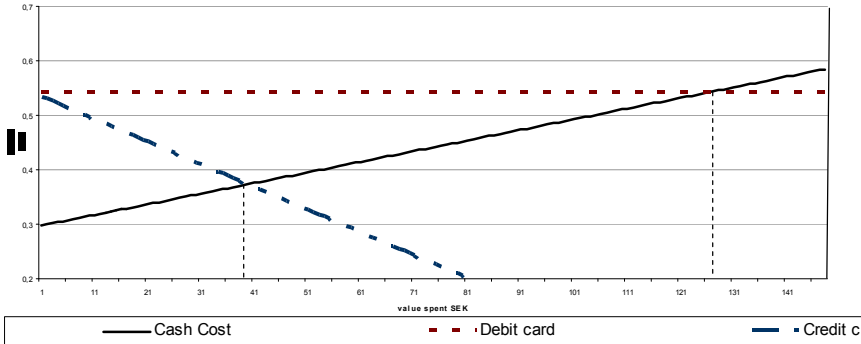
## Total and unit social costs for cash and card payments 2002

	Total social costs SEK million	Volumes million transactions	Turnover SEK million	Unit social costs SEK
Cash	6 560	1 424	235 000	4.6
Tot card	1 780	589	365 000	3.0
-of which:				
Debit card	1 540	509	297 000	3.0
Credit card	240	80	68 000	3.0
<b>Tot. POS trans.</b>	<b>8 340</b>	<b>1 989</b>	<b>600 000</b>	

# Social costs of cash and card payments as functions of spent value, SEK



# Users' private costs of cash and card payments



## Observed choices: TEMO survey data

- Choice depends on transaction amount and age.
- Threshold: prob. card = prob. cash:
  - SEK 135 average person (41 y old male, secondary education, income 300'-350', 2-family household)
    - SEK 123 for "typical individual"
    - SEK 65 for 20 years old
    - SEK 179 for 60 years old
- Average cash payment SEK 165

## Comparison with Brits & Winder study

<b>SWEDEN 2002</b>	<i>SEK billion</i>	<i>Total costs per cent of GDP</i>	
		<b>SWEDEN 2002</b>	<b>NETHERLANDS 2002</b>
Total costs POS (1)	8.43	<b>0.35%</b>	<b>0.65%</b>
Total costs POS (2)	9.6	<b>0.40%</b>	
Cash (1)	6.51	<b>0.27%</b>	<b>0.48%</b>
Cash (2)	7.68	<b>0.32%</b>	
Debet cards	1.56	<b>0.07%</b>	<b>0.11%</b>
Credit cards	0.36	<b>0.02%</b>	<b>0.04%</b>
<b>M0/ GDP (2000)</b>		<b>4.4%</b>	<b>4.7%</b>
break even cash-debet card SEK		<b>72</b>	<b>105</b>

## Conclusions

- Cost efficient break even points compared to actual behaviour suggest welfare gains of increased(decreased) card (cash) payments
- Social and private incentives are not well aligned
- Consumers' choices depend on age and educational level
- Ongoing adjustment of payment habits?
- Measures to shorten adjustment process?

## Policy conclusions

- Information and communication to the market by the Riksbank through:
  - publications
  - speeches
- Massmedial and public reaction:
  - large focus on ATM fees proposal