

SEPA, Efficiency, and Payment Card Competition

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Agenda

- **Motivation**
 - Invigorating SEPA
 - Scope for new European card scheme(s)?
- **Card-based businesses**
 - Enormous footprint of card payments
 - European payments market
- **SEPA and welfare implications**
 - A Model of SEPA and payment cards
 - Who benefits and who bears cost?
 - Pricing and welfare implications

Motivation

Invigorating SEPA

- Integrated and efficient financial markets
- Fosters competition and innovation
- Smooth and safe payment infrastructure

Scope for new European card scheme(s)?

- SEPA for Cards crucial for success of SEPA
 - ...difficult to perceive
 - ...only a few payment schemes likely to “survive”
 - ...risk of “extinction” of national, efficient schemes
 - ...risk to freeze current fragmentation
- **Need for additional European card scheme(s)**

Research questions

1. Positive welfare effects from SEPA?
2. What are the effects of increased compatibility between card schemes and scale economies:
 - Who benefits, who pays?
 - Card usage?
3. Impact of additional European card scheme(s):
 - Competition between card schemes
 - Pricing: merchant fees, MIF, cost of cash
 - Acceptance: merchants and consumers
 - Social welfare

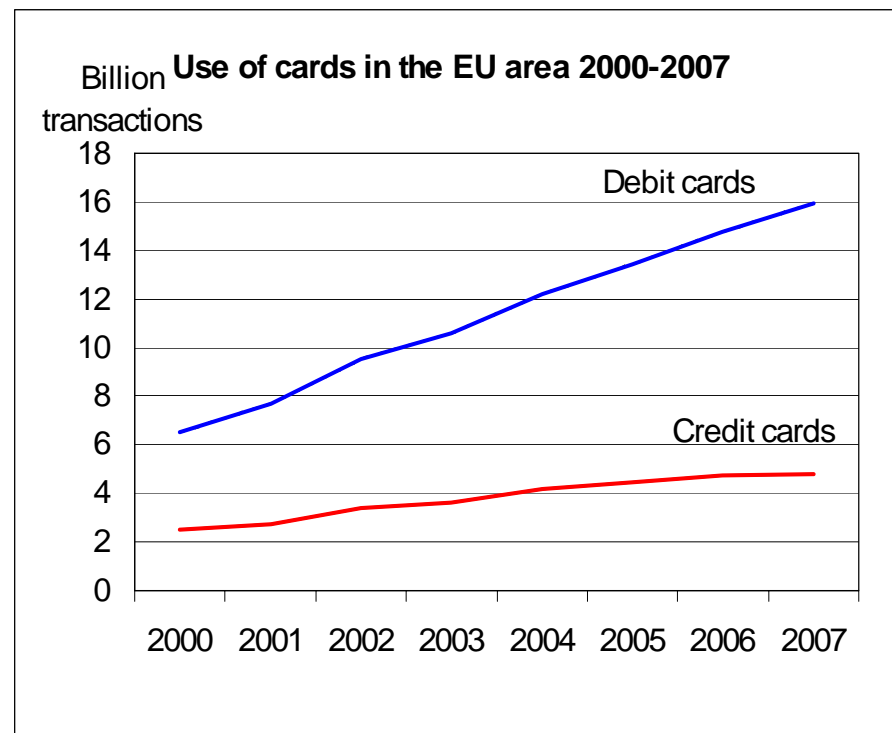
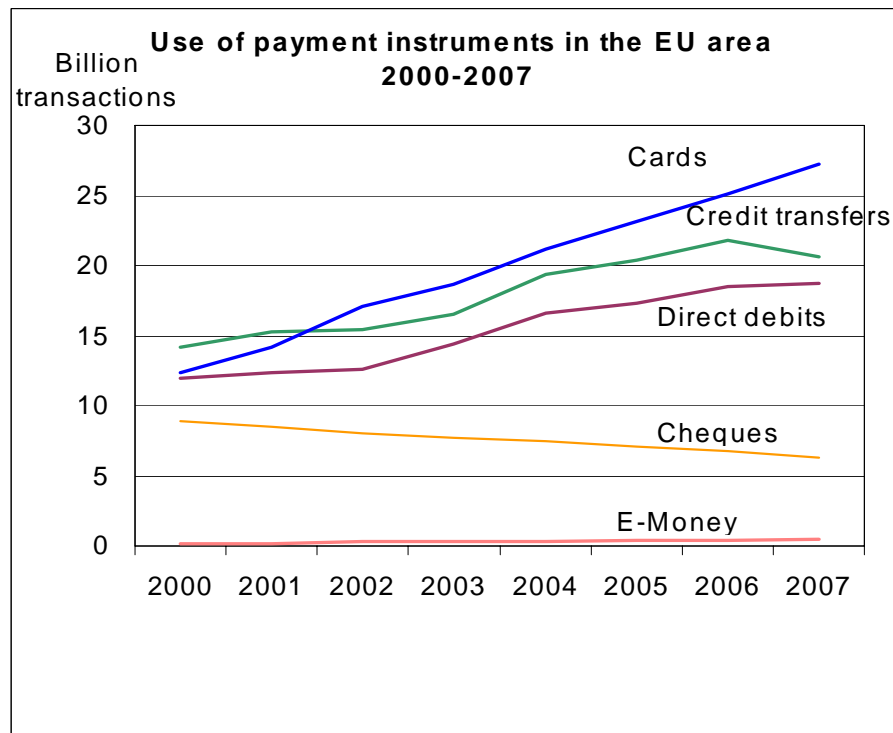
The “missing” academic market: SEPA literature

- Despite its economic and political importance, SEPA has been largely absent from research agenda
- Literature on card payment networks: e.g. Baxter, Rochet and Tirole, Schmalensee, Wright, Chakravorti
- Guiding the political and academic discussion:
 - SEPA for payment cards
 - Emergence of European card scheme(s)
 - MIF arrangements

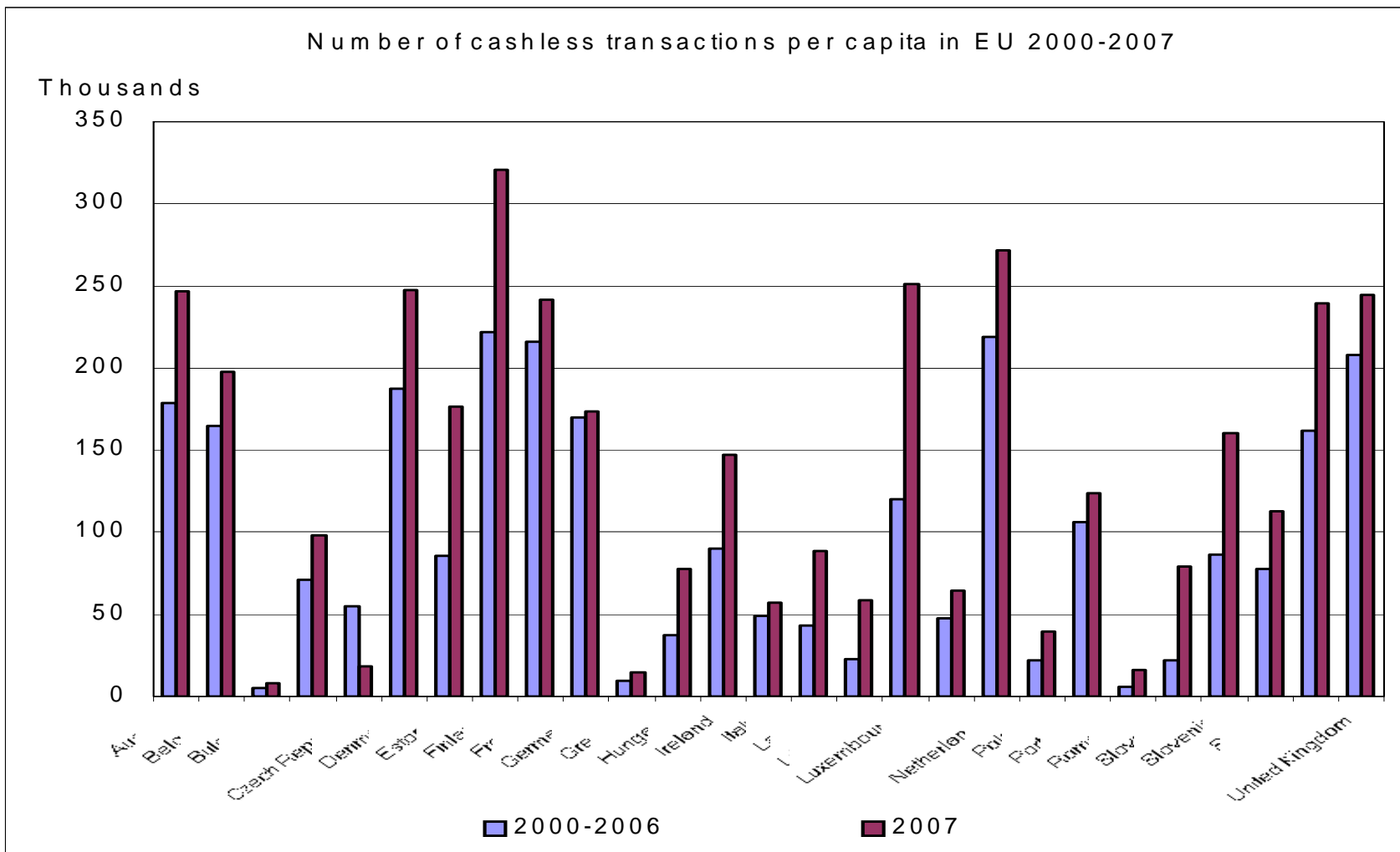
Enormous footprint of card payments

Strong, continued growth of card payments in Europe...

...in particular for debit cards...



...but with large country-specific differences.

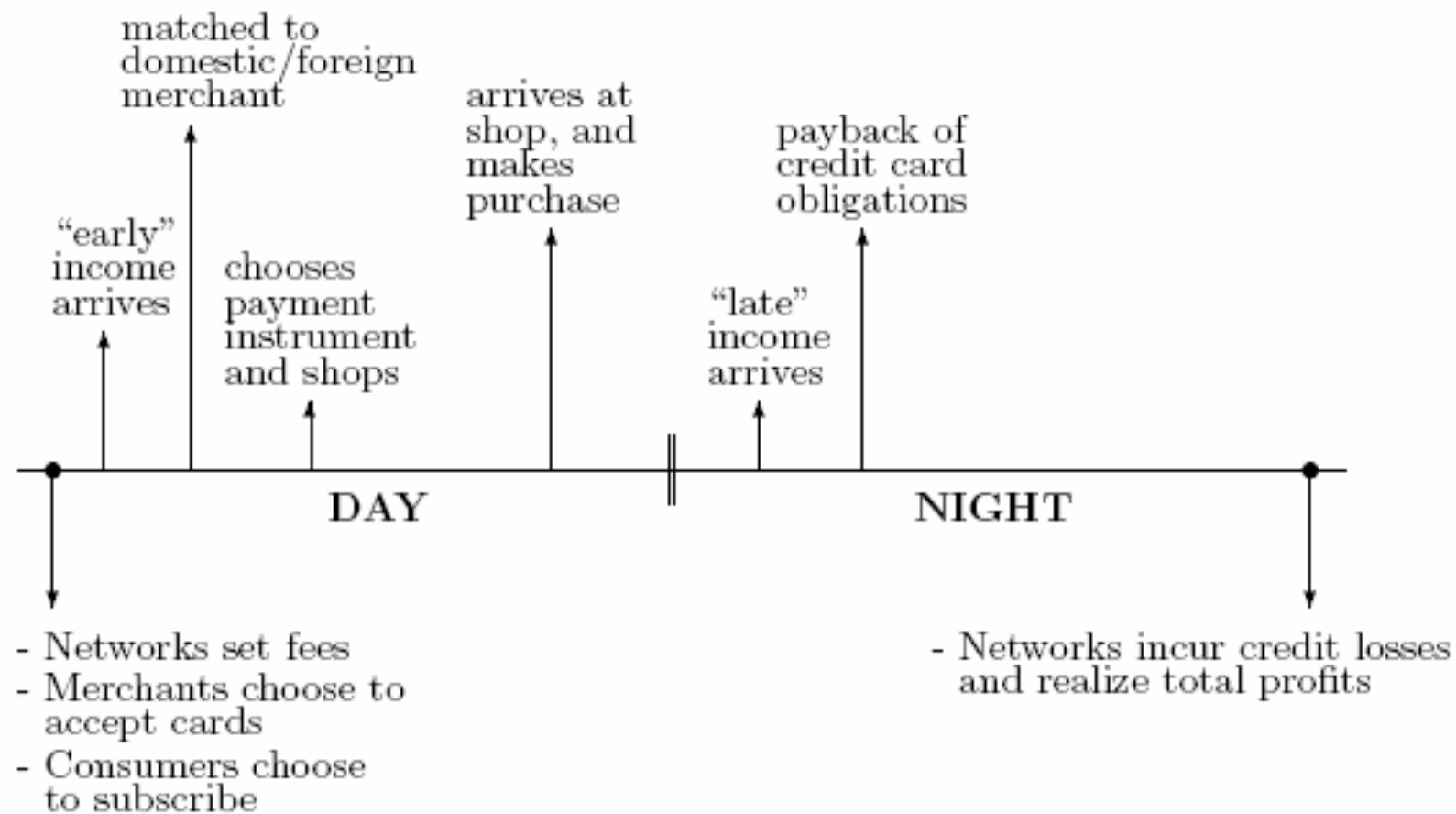


SEPA and welfare implications

Model ingredients in a nutshell:

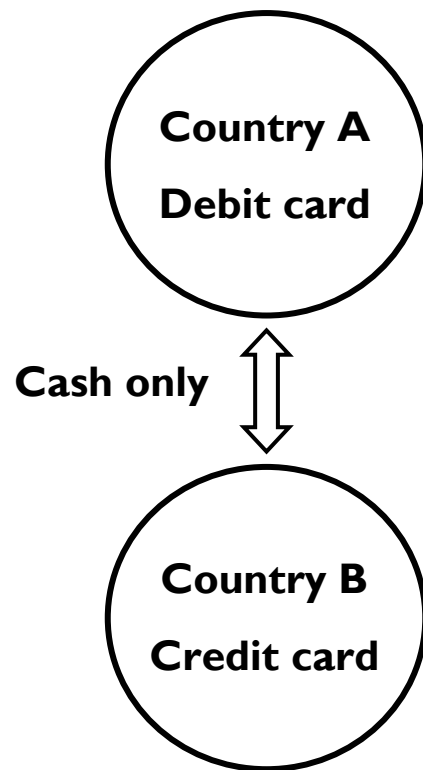
- Two countries of equal size
- Three risk neutral agents: Consumers, heterogeneous merchants, card networks
- Consumers subject to three shocks: late income, matched to domestic/foreign merchant, and getting mugged
- Tourist test: merchants avoided cash handling costs
- Debit (credit) cards protect against theft (and insufficient income)
- Card networks
 - incur processing costs (debit < credit), default risk
 - charges consumer fixed fees and
 - sets uniform merchant per transaction fees
- No-surcharge rule

Sequence of events:



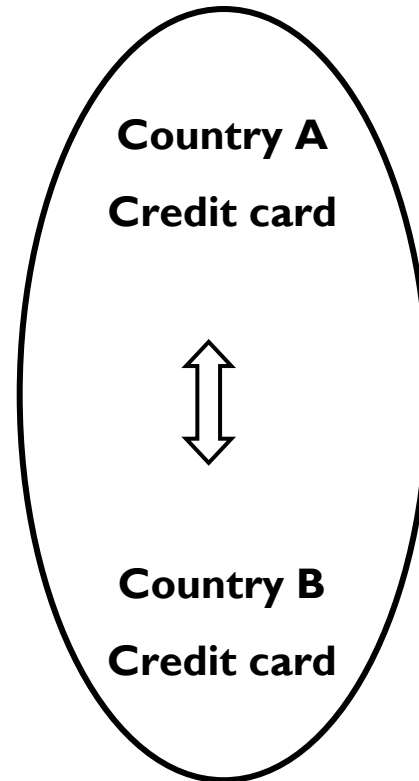
Pre-SEPA

Incompatible
card schemes

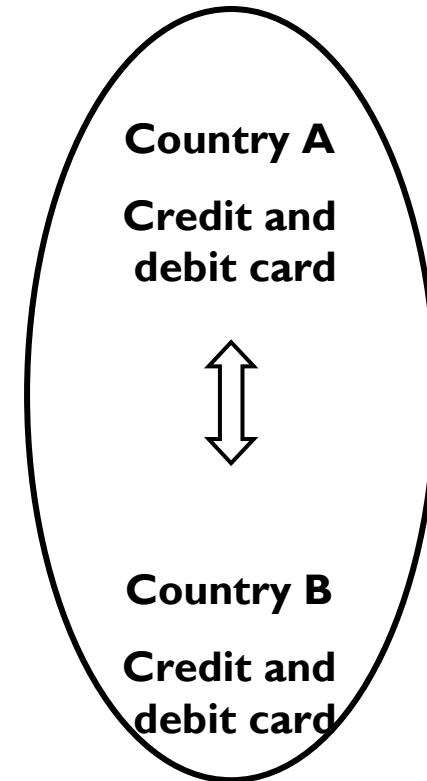


SEPA

Compatible
monopolistic network



Competitive
card networks



Pre-SEPA environment

Country A: debit card pricing

- **Consumers:** $\phi_1 \rho v_0 \leq \phi_1 ((1 - \beta \alpha^A) \rho + \beta \alpha^A) v_0 - (\phi_1 + \phi_2) F^A$
Trade-off fee to subscribe to a card network vs expected utility from additional consumption
- **Merchants:** $\phi_1 \beta \rho (\pi^A(i) - h) \leq \phi_1 \beta (\pi^A(i) - f^A)$
Must make as much profit from accepting debit cards than only cash
- **Card network:** $\Pi_N^A(F^A, f^A, \alpha^A) = \phi_1 \beta \alpha^A (f^A - c^A) + (\phi_1 + \phi_2) F^A,$
subject to: $F^A = F_{max}^A(f^A), \quad \alpha^A = \alpha_{opt}^A(f^A).$

Needs to solve card networks profit maximization problem by setting consumer and merchant fees.

Network extracts merchant and consumer surplus by pricing both sides.

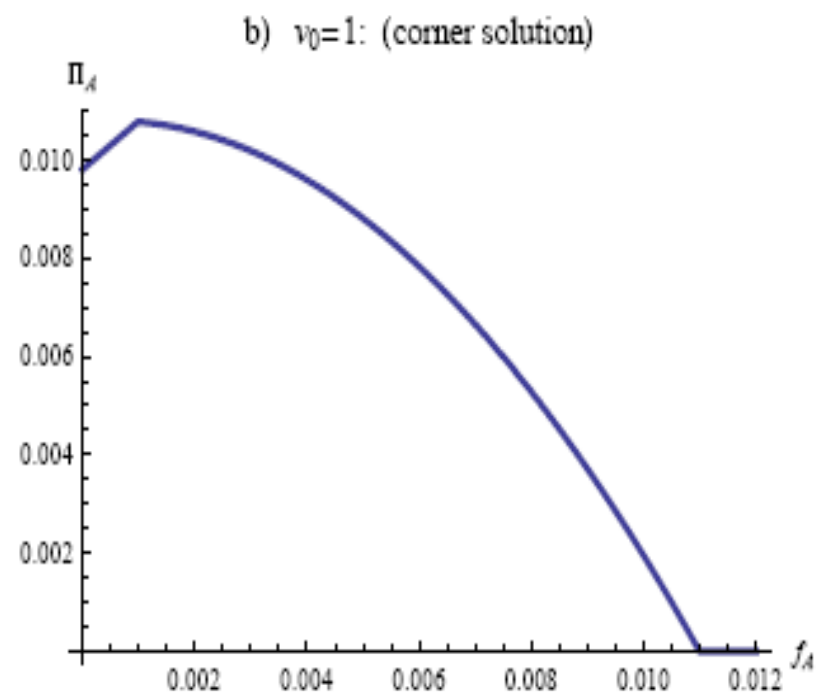
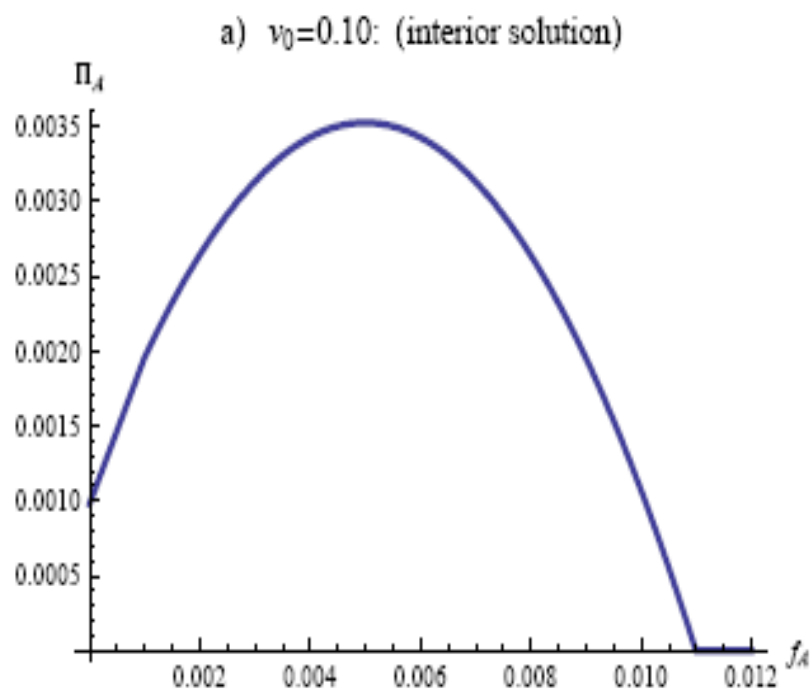
Merchant pricing power restricts extraction from consumers.

Country B: credit card pricing

- same structure but credit cards offer additional protection against insufficient income
- create additional sales that also benefit merchants
- higher processing cost and default risk

- changes consumer participation constraint and merchant acceptance condition
- credit card network has more ability to extract but has also higher cost

Merchant pricing power, debit card profit and balance of payment prices



Price and welfare comparison between country A and B

	cash	Country A (debit card)		Country B (credit card)	
		monopoly	max welfare	monopoly	max welfare
f^*		0.0062	0.0065	0.0157	0.0155
$F_{max}(f^*)$		0.0005	0.0000	0.0005	0.0000
$\alpha_{opt}(f^*)$		0.4745	0.4490	0.2606	0.2724
F_{max}^*/f^*		0.0748	0.0000	0.0329	0.0000
$\Pi(f^*)$	0.0000	0.0022	0.0018	0.0013	0.0008
$W(f^*)$	0.5871	0.5880	0.5881	0.5878	0.5878

Note: $h = 0.001$, $c^A = 0.0025$, $c^B = 0.0075$, $\rho = 0.99$, $\phi_1 = 0.99$, $\phi_2 = 0.005$, $\beta = 0.99$.

- **Consumers are equally well off**
- **Debit cards cheaper than credit cards for merchants**
- **Social welfare neutral towards consumer fixed fees**
- **Welfare: Debit cards in A > credit cards in B**
- **Cards in general improve cash-only economy**

SEPA environment

Two market outcomes of SEPA

- No national fragmentation – all payment cards compatible
- Scale effects spur consolidation of networks and infrastructures: processing costs ↓
- Only few card networks likely to “survive”
- Need to carry cash disappears: theft cost ↓

Compatible monopolistic network: credit only

- Merchants B face lower merchant fees and greater card acceptance
- Merchants A must balance higher fees vs expected additional sales
- Consumers indifferent

Competitive card networks: credit+debit

- Debit and credit card network compete for business to maximize profits
- Consumers multi-home
- Merchants single-home
- Lower merchant fees, but consumers indifferent

Price and welfare comparison pre-SEPA and SEPA

	pre-SEPA phase				SEPA			
	Country A		Country B		credit		debit and credit	
	monop	welfare	monop	welfare	monop	welfare	comp	welfare
f_d	0.0062	0.0065					0.0037	0.0015
f_c			0.0157	0.0155	0.0144	0.0080	0.0108	0.0080
F_d	0.0005	0.0000					0.0004	0.0000
F_c			0.0005	0.0000	0.0006	0.0000	0.0006	0.0000
α_d	0.4745	0.4490					0.4427	0.6015
α_c			0.2606	0.2724	0.3234	0.6467	0.2839	0.3475
F_{max}^*/f^*	0.0748	0.0000	0.0329	0.0000	0.0448	0.0000	0.0523	0.0000
$\Pi(f^*)$	0.0022	0.0018	0.0013	0.0008	0.0021	-0.0013	0.0018	-0.0013
$W(f^*)$	0.5880	0.5881	0.5878	0.5878	0.5902	0.5912	0.5919	0.5921

$$c^A = c_d = 0.0025, c^B = 0.0075, c_c = 0.005, h = 0.001, \rho = 0.99, \phi_1 = 0.99, \phi_2 = 0.005, \beta = 0.99.$$

Price and welfare comparison pre-SEPA vs SEPA

- Competition decreases merchant fees for debit+credit card
- Total card usage and acceptance in SEPA increases
- Total card network profits less in SEPA than before
- Acceptance debit cards $>$ credit cards, but depends on relative costs
- Social welfare highest in competitive SEPA world, but does not necessarily yield "best" outcome
- Total card network profit < 0 if zero fixed fees in optimum

Conclusion

- SEPA will shape Europe's future payments landscape
- Literature shows economic benefits to be realised through standardisation and consolidation
- Payment cards most used non-cash payment instrument in euro area
- SEPA for cards is crucial for the success of SEPA
- Dark clouds at the horizon:
 - Discontinuation of national schemes
 - Risk of decreased competition
 - Scope for additional European card scheme

Conclusion

- Pricing and welfare implications of SEPA:
 - Credit-card monopoly
 - Competitive debit-credit card duopoly
- Payment cards create additional consumption possibilities and avoid merchant cost of cash
- Network compatibility and economies of scale main drivers for SEPA
 - Increase cards usage and reduce use of cash
 - Lower processing costs
- Competition drives down merchant fees and increases card acceptance
- Room for MIF to achieve optimal merchant fee
- Society benefits most from a competitive SEPA, but still "2nd-best"
- New European card scheme viable way forward to achieve efficient, competitive, and integrated European card payments market

Thank you for your attention!

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