swiss economics

The interdependencies between various types of mail items

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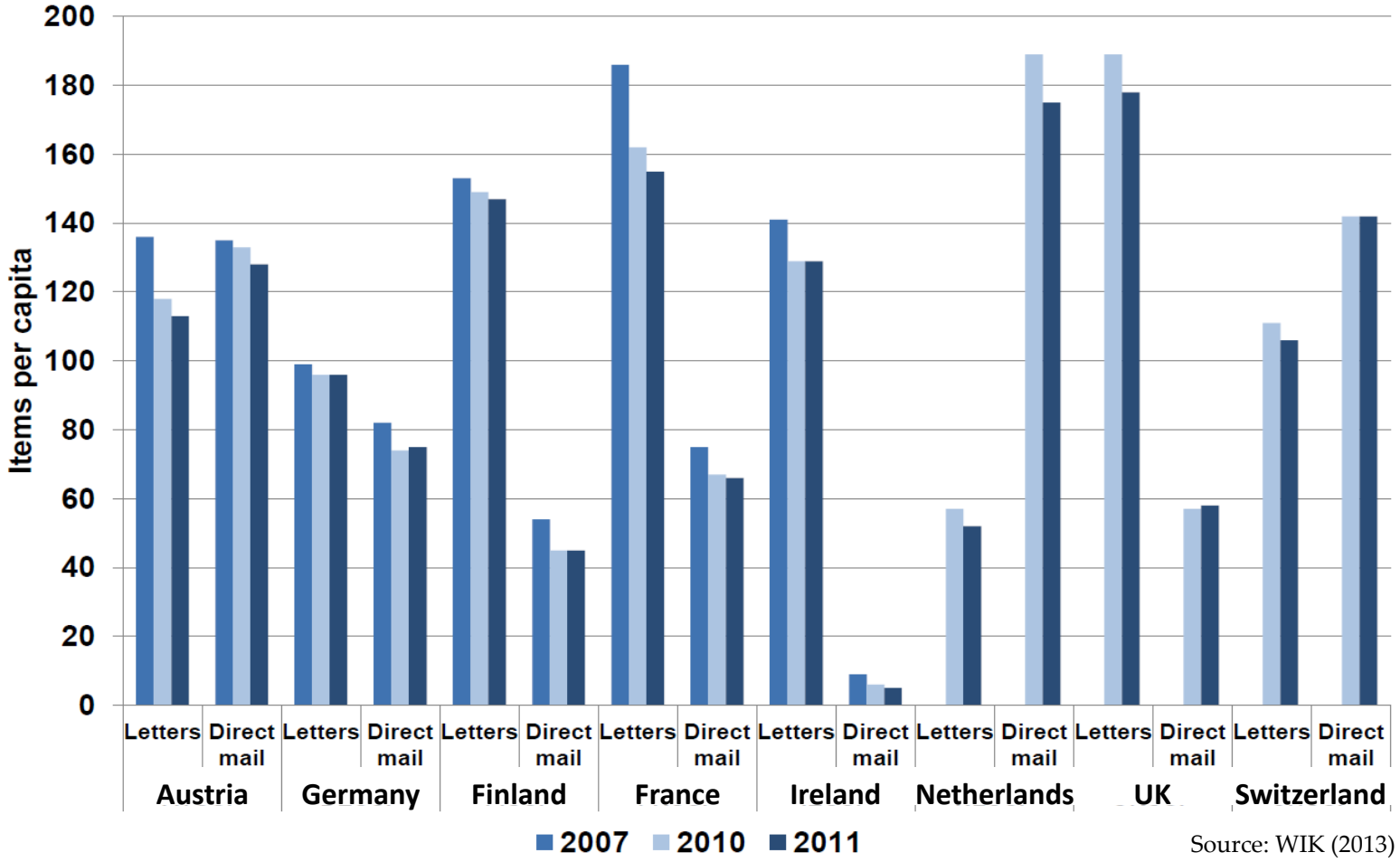
Mail volume development



Source: WIK (2013)

→ Electronic substitution is often stronger for transactional mail than for direct mail

Introduction

Motivation for the paper

- Why is there still so much direct mail? What makes it valuable?
- What might the log-run effect of asymmetric electronic substitution be?

Despite declining volumes, mail is still the most important business for many postal operators. How to make sure it keeps its relevance?

Conjecture

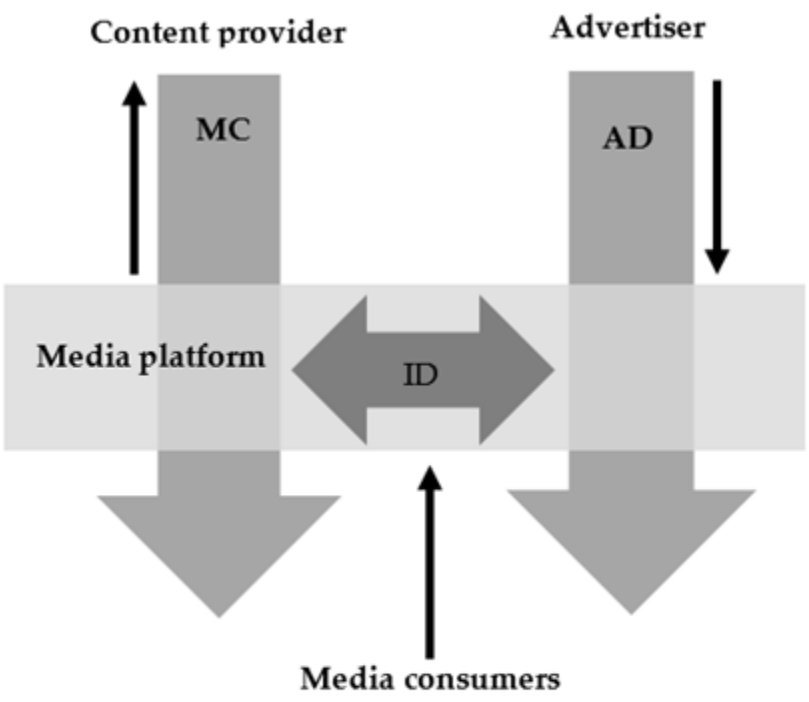
The mailstream is a platform

→ The recipients' attention to direct mail depends on other mail items in his mailbox, i.e. the mailmix

The mailstream compared to media platforms (I)

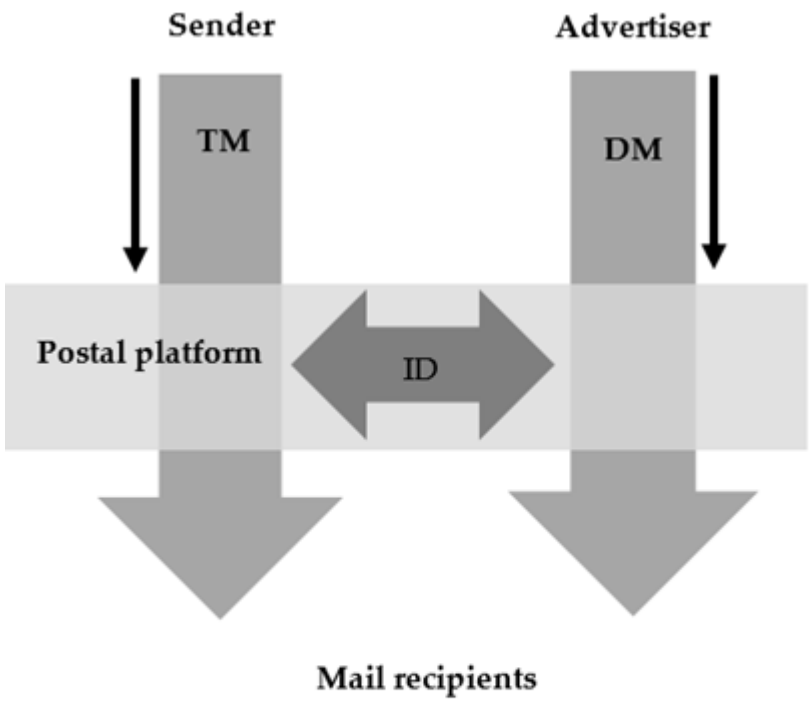
		Television	Print media	Mail
Platform		Channel	Newspaper	Mailstream / Mailbox
Market 1	Demand side	Advertisers	Advertisers	Senders
	Good	Time slot	Page space	Transactional / Direct mail
	Price	Price per advert	Price per advert	Postage fee
Market 2	Demand side	Viewers	Readers	Recipients
	Good	Televised content	Editorial content	Transactional / Direct mail
	Price	Subscription or zero fee	Subscription or zero fee	Zero fee

The mailstream compared to media platforms (II)



→ = Payment streams

ID = Interdependencies
MC = Media content
AD = Adverts



→ = Payment streams

ID = Interdependencies
TM = Transactional mail
DM = Direct mail

The mailstream compared to media platforms (III)

Similarities

- Multi-sided market
- Various types of content
- Interdependency between content types

Differences

- Mailstream is non-excludable
- No provision of own content by the postal operator
- No active design of the mailstream by the postal operator
- Positive price for “good” postal content, only senders pay

Mailmix definitions

$$\text{Mailmix 1} = \frac{\text{Non-advertisement mail}}{\text{Total mail}}$$

$$\text{Mailmix 2} = \frac{\text{Private mail}}{\text{Total mail}}$$

$$\text{Mailmix 3} = \frac{\text{Good mail}}{\text{Total mail}}$$

Private mail plus
- Salary statement
- Gifts / vouchers
- Confirmations (course enrolment etc)

Evaluation per week or daily

Descriptive statistics

544 recipients
11’198 mail items
4’622 addressed letters; 3’409 newspapers; 2’836 unaddressed items

	Mean	Std.dev.	Min.	Max.
Mailmix 1 – Overall	0.495	0.244	0.000	1.000
Mailmix 2 – Overall	0.125	0.143	0.000	1.000
Mailmix 3 – Overall	0.182	0.168	0.000	1.000
Mailmix 2 – Daily	0.125	0.242	0.000	1.000
Age category fixed effect	2.849	0.993	1.000	4.000
Gender (1 = female)	0.562	0.496	0.000	1.000
No ads sticker fixed effect	0.538	0.499	0.000	1.000
Also received newspaper fixed effect	0.945	0.229	0.000	1.000

The age categories are defined as follows: category one contains all observations with an age ≤ 30. Category two all with $30 < \text{age} \leq 45$. Category three all with $45 < \text{age} \leq 60$. Category four all with age > 60.

Potential effects of the mailmix

1) Reaction time to addressed mail

2) Type of reaction to addressed advertisement mail

- **Positive**
  Recipient asks for the sender's products or services
  Recipient contacts the sender, or searched on the Internet for further information.
- **Neutral**
  Recipient puts the mail aside for later action
- **Negative**
  Recipient disposes of the mail immediately

3) Reading rates of addressed mail

Effect on the reaction time to addressed mail

Ordered logit model	Reaction time		
	Odds ratio		Std.dev.
[M1-1] Mailmix 2 – Overall	-1.717	***	(0.373)
30 < Age ≤ 45	-0.071		(0.163)
45 < Age ≤ 60	-0.006		(0.159)
Age > 60	0.104		(0.164)
Gender (female)	0.118		(0.097)
No ads sticker fixed effects	0.229	***	(0.096)
Also received newspaper fixed effects	-0.672	***	(0.179)
[M1-2] Mailmix 1 – Overall	-1.347	***	(0.197)
[M1-3] Mailmix 2 – Overall	-1.600	***	(0.370)
[M1-4] Mailmix 3 – Overall	-0.856	***	(0.294)
[M1-5] Mailmix 2 – Daily	-1.642	***	(0.273)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Estimation with weekly mailmix

Estimation without newspaper fixed effect

Good mailmix decreases reaction time

People with sticker take longer to react

People with newspaper react faster

Interpretation: If Mailmix 2 – Overall is increased by 0.1 units, the probability of the reaction time being one day longer decreases by 8%.

Effect on the reaction to addressed advertisement

Multinominal logit model	Positive reaction		
Base outcome: neutral reaction	Odds ratio		Std.dev.
[M2-1] Mailmix 2 – Overall	2.763	**	(1.100)
30 < Age ≤ 45	0.421		(0.567)
45 < Age ≤ 60	-0.344		(0.591)
Age > 60	0.073		(0.558)
Gender (female)	-0.962	***	(0.325)
No ads sticker fixed effects	0.906	***	(0.311)
Also received newspaper fixed effects	-1.066	*	(0.598)
Constant	-2.202	*	(0.871)
[M2-2] Mailmix 1 – Overall	1.635	***	(0.617)
[M2-3] Mailmix 2 – Overall	2.889	***	(1.095)
[M2-4] Mailmix 3 – Overall	1.269		(0.873)
[M2-5] Mailmix 2 – Daily	1.284	**	(0.619)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Estimation with weekly mailmix

Estimation without newspaper fixed effect

Good mailmix increases probability of positive reaction to addressed advertisement

People with sticker react more positively

Interpretation: If Mailmix 2 – Overall is increased by 0.1 units, the probability of a positive reaction (instead of neutral) increases by 148%.

Effect on the reading rates of addressed mail

	Put aside unread			Disposed unread		
Base outcome: studied	Odds ratio		Std.dev.	Odds ratio		Std.dev.
[M3-1] Mailmix 2 – Overall	-0.680		(0.551)	-3.449	***	(1.100)
30 < Age ≤ 45	0.191		(0.298)	0.481		(0.506)
45 < Age ≤ 60	0.002	**	(0.298)	0.338		(0.506)
Age > 60	0.224		(0.297)	0.473		(0.509)
Gender (female)	0.037		(0.159)	0.115		(0.249)
No ads sticker fixed effects	-0.301	*	(0.158)	-0.484	**	(0.245)
Newspaper fixed effects	-0.221		(0.331)	0.104		(0.609)
Constant	-2.289	***	(0.466)	-3.254	***	(0.809)
[M3-2] Mailmix 1 – Overall	-1.824	***	(0.341)	-3.615	***	(0.566)
[M2-3] Mailmix 2 – Overall	-0.651		(0.549)	-3.460	***	(1.098)
[M2-4] Mailmix 3 – Overall	-0.577		(0.468)	-3.814	***	(0.942)
[M2-5] Mailmix 2 – Daily	-1.140	***	(0.374)	-4.772	***	(1.330)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Interpretation: If Mailmix 2 – Overall is increased by 0.1 units, the probability of a mail item being disposed unread decreases by 10%.

Conclusion

The mailstream is a platform with various types of mail interacting with each other

The mailmix

- **reduces the reaction time to addressed mail**
- **improves the reaction to addressed advertisement mail**
- **increases the reading rate of addressed mail**

There is an opportunity for postal operators to actively manage their mailstream in order to maintain or increase the attractiveness of their platform / communication channel

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