

A mixed mode survey on book prices among booksellers

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EESW2001, 14.9.2011, Neuchâtel

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Contents



Introduction

Samples and surveys

Datapreparation and Analysis

Results and Conclusions

Political Background

- ▶ May 2007: Government abolishes Retail Price Maintenance (RPM) by Booksellers in German speaking part of Switzerland (CH-D).
- ▶ Parliamentary motion to introduce RPM by law in CH-D and CH-F.
- ▶ Observation time: Study mandated by State Secretary for Economic Affairs to FHNW.
- ▶ Objective: Impact of RPM abolishment within one year from consumer perspective.
- ▶ Today law passed by parliament is challenged by popular referendum.

Book price index

- ▶ Define commodities according to content and form of titles.
- ▶ Draw a sample of titles.
- ▶ Get selling prices of these titles
- ▶ Mean price of title: Sales (number of copies sold) weighted arithmetic mean of selling prices.
- ▶ Price of commodity: sales and sampling weighted geometric mean.

$$p_{commodity} = \left(\prod_{titles} p_{title}^{q_{title} w_{title}} \right)^{1 / \sum_{titles} q_{title} w_{title}}$$

- ▶ Basic index per commodity: Selling price / List price.
- ▶ Overall index: turnover weighted geometric mean of basic indices.

Response burden

- ▶ Booksellers federation: maximum 30 titles per bookseller (except large companies).
- ▶ To attain minimal precision $n_T = 144$ needed.
- ▶ \Rightarrow Split the sample of titles into partial lists of 24 titles.
- ▶ $n_T = 72$ for CH-F.

Sample of titles

- ▶ VLB: 1.3 Mio German titles. electre: 1.2 Mio French titles.
- ▶ Distribution centers provide "observable" titles:
 $N \approx 10'000$.
- ▶ Frame: number of delivered copies and list price three months before survey.
- ▶ stratification by commodities, allocation proportional to number of delivered copies.

Sample of booksellers

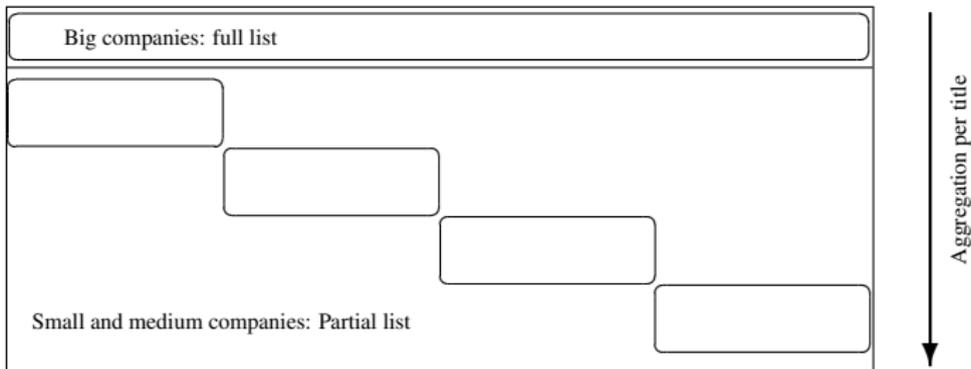
- ▶ Frame of booksellers?
- ▶ bookselling may be secondary activity!
- ▶ Official statistics approx 475 enterprises.
- ▶ Frames elaborated from booksellers association: 545 enterprises.
- ▶ In addition: Departmentstores, kiosks, gasoline station shops.

Overview

Titles

		High sales		
	Commodity k	Medium sales	Commodity k'	
		Low sales		

Booksellers



Control sample

- ▶ Stratified sample (large cities and rest).
- ▶ Independent of main survey.
- ▶ Shop visits by students: quantities or data of delivery and price

Survey Modes

- ▶ Online (EFS Globalpark)
- ▶ Paper (from online questionnaire)
- ▶ Electronic Files (Word and Excel) from large companies
- ▶ Shop visit protocols.

Response

sample	sample size	CH-D	CH-F
main	gross	406	197
	net	172	53
	resp. rate	0.42	0.27
control	gross	43	33
	net	35	25
	resp. rate	0.81	0.76
usable	net	129	44
	resp. rate	0.32	0.22

Data preparation

- ▶ Outlier detection: univariate rules, list prices
- ▶ Combination online and control survey

Control survey	Main survey			
	q_{MPM}	q_{MX}	x_{pM}	xx
q_{cPc}	q_{cPc}	q_{cPc}	q_{cPc}	q_{cPc}
q_{cX}	q_{MPM}	q_{cPL}	q_{cPM}	q_{cPL}
x_{pC}	q_{MPM}	q_{MPc}	0_{pC}	0_{pC}
xx	q_{MPM}	q_{MPL}	0_{pM}	$0x$

- ▶ Missing quantity information for a large enterprise:
Sensitivity Analysis

Weighting

- ▶ Combination of samples:
 - ▶ Inclusion probabilities and response rates per partial list for main survey
 - ▶ Inclusion probabilities for control survey (with downweighting of "rest").
- ▶ Inclusion probabilities for titles.

Results

Content	Form	CH-D		CH-F	
		S/L	SE	S/L	SE
Fiction	hard-cover	0.97	0.07	0.98	0.11
	paper-back	1.00	0.05	1.02	0.08
Youth	hard-cover	0.98	0.08	1.01	0.07
	paper-back	1.04	0.03	1.01	0.13
Non-fiction	hard-cover	0.98	0.07	1.00	0.27
	paper-back	0.91	0.14	1.00	*
Study	hard-cover	0.99	0.07	1.00	0.26
	paper-back	1.05	0.13	0.99	0.41
Total		0.986	0.031	1.001	0.088

Conclusions

- ▶ Complexity of combining different surveys (titles and booksellers): Response burden.
- ▶ 3 types of questionnaires (large companies, SME, secondary activity) in 2 languages
- ▶ Mixed mode (online, paper, files, shop-visits): No mode effect (?).
- ▶ Data preparation: Combining data and case by case decisions
- ▶ Compromises when weighting.