

Public opinion on local education expenditure. A multilevel analysis for Polish municipalities (preliminary results)

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Research is the result of the project No. 2014/13/B/HS4/03204, financed
by National Science Centre, Poland

Motivation

Oates decentralization theory

- Decentralization seems to be the way of improving allocative efficiency of public spending thanks to (among others):
 - differences in local preferences
 - local governors answer citizens demand
 - Does it work in case of education?



- Should education be decentralized?

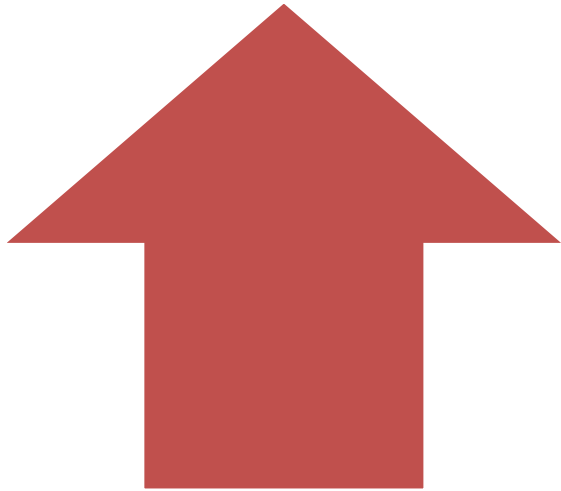
Research area and method

- Analysis of citizens demand on publicly provided goods
 - Median voter analysis
 - Micro-data studies – surveys about citizens desire to increase public spending
 - financed by new taxes (T. C. Bergstrom et al. 1982) (Rubinfeld 1977) (Ahlin & Johansson 2001)
 - “financed” by changing the share of local spending in municipal budget. (Sorensen & Hagen 1995; Rongen 1995)
 - Revealed preference based: (Hedonic Price (HP), Travel Cost Method) – implicit markets
 - Stated preference based: (Contingent Valuation, Discrete Choice Experiment) – constructed markets

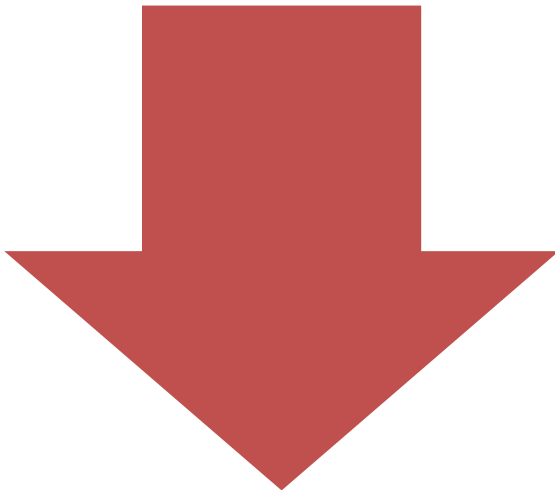
Individual preferences for government spending on education

- Preferences for public spending on education are largely influenced by:
 - characteristics of the individual, and existence of his/her private benefits of education (age, sex, level of education, personal income, having children, employment in school)
 - local context (?) (municipality income, age structure of the local community, opinion on local authorities, local political situation)

Local governors preferences for spending on education



In the ideal world the electoral institutions are the channel for aggregating voters' preferences into politicians' preferences



Policymakers manipulate the level and composition of public expenditure in their own self-interest (principal agent, political budget cycle theory, rent-seeking approaches, and pork-barrel spending models).

Individual preferences towards public spending: methodology

DATA

- A survey CAPI from a project: ***Study on the Economic Determinants for Objectives and Guidelines on Allocation of Private and Public Education Spending in Poland (BECKER)*** conducted by Educational Research Institute.
- Individual level: ca. 5636 observations (5183 inhabitants and 453 councilors). The survey took place in 2012–2013 in 36 municipalities and cities (located in nine poviats- county governments).
- Municipal data – State Election Commission 2010, Central Statistical Office (GUS)

METHODS: multilevel logit analyses

Dependent variable: preferences

- The dependent variable (preferences) is operationalized as follows: respondents were asked if expenditure on education should increase.
 - The answers of respondents to those questions are coded on scale from 1 (spend more), 2 (status quo), to 3 (spend less).
 - Information about the share of education expenditure in budget of each municipality was given in the survey.
 - Respondent were informed that changing level of spending for education change also the expenditure for other local services (Sorensen, Hagen 1995)

Preferences for public spending on education—distribution of answers (%)

	same and less	more
Teachers	39	61
Non-teacher	56	44
Councilors	46	54
Inhabitants	57	43
Women	54	46
Man	58	42
Higher level of education	49	58
Lower level	58	42
Child (under 16)	44	56
No child	56	41

Research strategy

- Determinants of community preferences were measured using multilevel logit model. It allows inclusion of independent variables from second level for explanation of variable at the lowest level.

Model 0

- first step - decomposition of the variance of general municipality preferences into an within-gminas component and an between-gminas one – estimation of a null or empty two-level model (with only an intercept and community effects).
- the greatest variability of general community preferences 90.7 % occurs within gminas, variance between gminas 9.3% (statistically significant, $p < 0.05$) and indicates that multilevel model can be used productively

Logit multilevel models for opinions on education expenditure

	Model 1	Model 2	Model 3	Model 4
Individual level	coef.	coef.	coef.	coef.
Gender	-0.18 (0.06) ***	-0.18 (0.06) ***	-0.18 (0.06) ***	-0.18 (0.06) ***
Councillor	0.37 (0.12) ***	0.38 (0.12) ***	0.37 (0.12) ***	0.36 (0.12) ***
Age	-0.01 (0.02) ***	-0.01 (0.02) ***	-0.01 (0.02) ***	-0.01 (0.02) ***
Marital status	0.13 (0.06) ***	0.13 (0.06) ***	0.14 (0.06) ***	0.13 (0.06) ***
Teacher	0.53 (0.15) ***	0.52 (0.15) ***	0.53 (0.15) ***	0.52 (0.15) ***
Child	0.54 (0.07) ***	0.54 (0.07) ***	0.54 (0.07) ***	0.54 (0.07) ***
Education	0.18 (0.07) ***	0.18 (0.07) ***	0.18 (0.07) ***	0.18 (0.07) ***
Material situation	-0.17 (0.07) ***	-0.17 (0.07) ***	-0.17 (0.07) ***	-0.17 (0.07) ***
Governor evaluation	-0.19 (0.08) ***	-0.19 (0.08) ***	-0.19 (0.08) ***	-0.19 (0.08) ***
_cons	0.22 (1.10)	1.08 (0.39) ***	-0.2 (0.36) ***	0.18 (0.63) ***
Municipality level				
Political competition		-1.5 (0.59) ***		
Share of elderly		-10.9 (3.22) ***		
Public spendig for schools per capita			0.02 (0.16)	
Share of own revenues				0.01 (0.01)

Significance level: *p<0.05, **p<0.01, ***p<0.001; N =5013

Individual and contextual variables

Individual level	
preferences	yes=1, no=0
gender	man=1, woman=0
councillor	yes=1, no=0
age	continuous
marital status	single=0, no=1
teacher	yes=1, no=0
children under 16 years	yes=1, no=0
education	higher education=1, lower=0
material situation	welath=1, poor=0
governor evaluation	bad=0 good=1
Municipality level	
political competition (HH index)	high=1, low=0
share of elderly (70 years old)	continuous
public spendig for schools_pc	continuous
share of own local revenues	countinuous

We control: population, quality of education

Research strategy

- Model 1 estimates determinants at the individual (respondent) level
- Model 2-4 estimates determinants at the individual (respondent) level and determinants at the municipalities level

	Model 1	Model 2
Variance intercept	0.34	0.37
Variance explained at level-2	10%	9.5%
Number of observation	5031	5013
LR test vs. logistic regression chibar 2	207	139
Log likelihood	-3250	-3247

Limitation

Survey data is not ideal

- people have the tendency to respond to a question in order to present themselves in a way that doesn't represent their true attitudes. Presenting positive attitudes toward the education may be a way of representing oneself as a person of good manners.
- the sample is representative for 9 poviats

Next steps

- improve analyses of macro variables (recoding, using different measures)
- tested for different functional forms of the effects of the independent variables

Conclusions

INDIVIDUAL LEVEL

- All micro-level characteristics receive empirical support (age, gender, etc) and the effects of these individual characteristics are the same in each community

LOCAL CONTEXT

- Share of elderly and political competition has impact on preference

POLITICIANS

- They want to spend more on education than citizens
- Citizens' preferences are not influenced by local government financial status- this is the representation of fiscal illusion and more generally people's misunderstanding of public spending problems.

Thanks for your attention,
We appreciate critical comments!