

Partial decentralization and its influence on local governments' spending policy.

An analysis of spending for teachers and other resources needed for schools.

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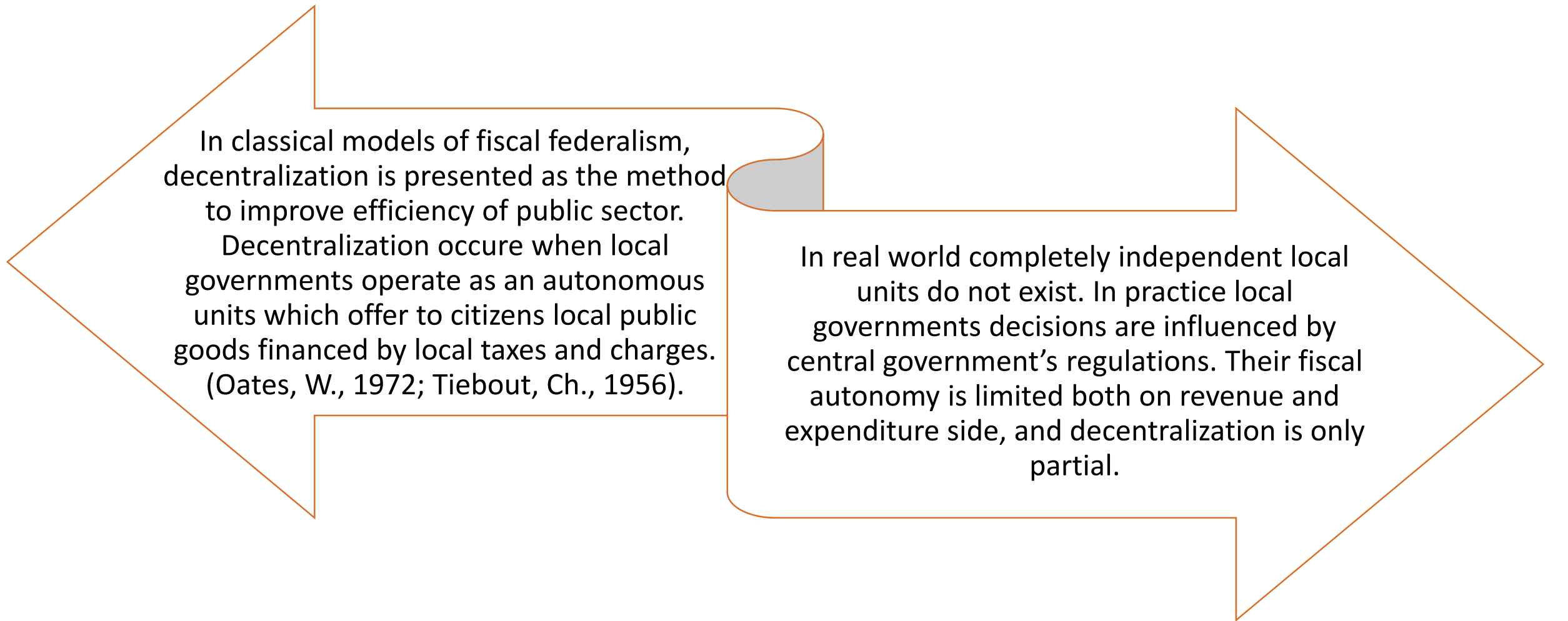
Aim of the study:

- *to analyze how limits in revenue and spending autonomy of subsovereign governments influence these governments' decisions.*

Presentation structure

- ✓ Theoretical background of partial decentralization- its definition, measuring and influence on local government spending
- ✓ Limitation of autonomy of Polish municipalities and the measures of municipal spending and revenue autonomy in Poland
- ✓ Quantitative study – panel data analysis of effects of limits in local autonomy on Polish towns' spending on schools
- ✓ Conclusions.

Theoretical background /motivation



In classical models of fiscal federalism, decentralization is presented as the method to improve efficiency of public sector.

Decentralization occurs when local governments operate as autonomous units which offer to citizens local public goods financed by local taxes and charges. (Oates, W., 1972; Tiebout, Ch., 1956).

In real world completely independent local units do not exist. In practice local governments' decisions are influenced by central government's regulations. Their fiscal autonomy is limited both on revenue and expenditure side, and decentralization is only partial.

Theoretical background /motivation

- Most studies analyze effect of limited revenue autonomy.

for example

- problem of fly paper effect and super-flypaper effect (Gramlich 1969; Inman 2008; Gramkhar 2002)
- when local budgets are more transfer dependent the local public spending increase and it could cause inefficient growth of local deficit and debt. (Asatryan, Feld, and Geys 2015; Baskaran 2010; Borge and Rattso 2002; Fiva 2006)
- The spending autonomy is more difficult to measure.
 - some studies use the information about grants to measure spending autonomy, for example when the specific grants are replaced by general we could understand it as increasing (or decreasing) degree of spending autonomy (Borge and Brueckner 2014)
 - limits in spending autonomy are also related to regulation on quality and quantity of local production- we could analyse different aspects of spending autonomy- policy, budget, output, input and control Bach, S. et al., (Bach, Blöchliger, and Wallau 2009) .

The problem of spending autonomy and its influence on local finance is not well recognized in literature.

Local governments in Poland and their fiscal autonomy

- Sub-sovereign expenses are about 30% of public expenses
- 3 levels- 2479 municipalities (rural, mixed, urban (239) and big cities), 314 counties and 16 regions.
- Municipalities decide about 80% of sub-sovereign expenses
- In towns current expenditures are the most important- education (41%), social protection (20%), administration (11%), communal services (7%), transport (5%)

Local governments in Poland and their fiscal autonomy

Indicator of spending autonomy

$$\text{ISA} = (\text{OE} - \text{N\&LA}) / \text{OE}$$

OE- operational expenditure

N&LA- no- and low-autonomous expenditure

Indicator of revenue autonomy

$$\text{IRA} = \text{OR} / \text{R}$$

OR- own local revenues and the loses of revenues due to local fiscal policy

R- total budget revenues

	mean	median	min	max	cv
ISA	0,5	0,49	0,24	0,81	0,15
IRA	0,41	0,4	0,13	0,92	0,25

Quantitative study

Towns spending for primary and lower secondary schools, PLN* per student in years 2002-2013

	mean	p50	min	max	cv	Changes of mean value between 2002-13.
All operational spending for schools **	5792.11	5678.51	2835.39	19076.55	0.27	98.0%
Sallaries***	5426.06	5301.64	2234.78	17222.90	0.27	101.2%
Non-wage spending**	366.05	297.72	30.36	5530.18	0.94	55.9%

PLN- Polish zloty - price fixed for 2014; ** without spending for energy *the budgetary qualification does not separate teachers and other school employees' salaries, but the teachers' salaries is the main part of salaries at schools (more than 80%)*

Quantitative study

panel data analysis for 239 urban municipalities in years 2002-2013.

method- static linear models with an AR(1) disturbance and dynamic panel estimator-
system GMM

$E_{ki} = f_k(\text{rev}_i, \text{soc}_i, \text{cost}_i, \text{IA}_i)$; where

E_{ki} - spending of town i for different categories of education's goods: all operational spending per student (all_spending_ps) (1); salaries per student (salaries_ps) (2); and non-wage spending per student (non_wage_ps) (3)

rev_i - denotes revenues of i -th local government

soc_i – is the vector of characteristics of the local population that determines the preferences for public education.

cost_i - characteristics of school sector, which define cost education

IA_i - indicator of autonomy- revenue (IRA) or expenditure (ISA) in town i

Quantitative study- variables

Name of variable	description	mean	p50	min	max	cv
subv_ps	Central support for municipal education - educational general grant per student in zł	4790.08	4490.60	2684.57	11423.68	0.24
pit_pc	Financial statement of town and citizens -Revenues from personal income tax per capita in zł	494.50	471.25	98.92	3462.91	0.48
schoolsize	Schools' size (number of students in average school in town)	401.13	388.38	57.50	991.50	0.37
women_all	Share of women in town population	0.52	0.55	0.49	0.52	0.02
ISA	Indicator of spending autonomy	0.50	0.49	0.24	0.81	0.15
IRA	Indicator of revenue autonomy	0.41	0.40	0.13	0.92	0.25

Quantitative study- results

	all_spending_ps (1)				salaries_ps (2)				non_wage_ps (3)			
	GMM	Static -RE	GMM	Static -RE	GMM	Static -RE	GMM	Static -RE	GMM	Static -RE	GMM	Static -RE
L. all_spending_ps	0.628**		0.644**									
L. salaries_ps					0.668**		0.669**					
L. non_wage_ps									0.692**		0.695**	
Insubosw_ps	0.214**	0.39**	0.202**	0.393**	0.177**	0.38**	0.181**	0.384**	0.167**	0.515**	0.152**	0.5**
IRA			0.095**	0.065**			0.103**	0.061**			0.074	0.05
ISA	0.018	-0.039			-0.002	-0.116**			0.361**	0.884**		
Inpit_pc	0.046**	0.052**	0.043**	0.056**	0.034**	0.046**	0.033**	0.05**	0.027	0.117*	0.051*	0.144**
Inschoolsize	-0.039**	-0.093**	-0.036**	-0.091**	-0.025*	-0.074**	-0.02*	-0.068**	-0.166**	-0.232**	-0.196**	-0.268**
women_all	0.949**	1.284**	0.772**	1.198*	0.787**	1.288**	0.601*	1.117*	2.036**	-0.858	2.326**	-0.116
const	0.875**	5.045**	0.905**	4.98**	0.914**	5.038**	0.907**	4.959**	-0.146	1.9	-0.01	2.086
N_groups	2,832	2,841	2,832	2,841	2,832	2,841	2,832	2,841	2,832	2,841	2,832	2,841
N_municipalities	239	239	239	239	239	239	239	239	239	239	239	239
AR(2)	0.35		0.35		0.39		0.43		0.07		0.07	
Hansen test	0.11		0.17		0.2		0.14		0.1		0.09	
number of instruments	76		76		76		76		76		76	
R-sq:												
within		0.95		0.95		0.95		0.95		0.34		0.33
between		0.37		0.41		0.29		0.33		0.21		0.18
overall		0.81		0.82		0.8		0.81		0.25		0.23
rhoar		0.66		0.65		0.66		0.66		0.54		0.54

* $p < 0.05$; ** $p < 0.01$

Conclusions

- more decentralized spending vary among towns, while less decentralized are more homogenous
- towns better endowed in own revenues spend more for less decentralised tasks, but it does not influence the decentralised spending
- Spending autonomy does not influence spending for regulated tasks, but it is important and quite strong determinant of non-regulated spending

Conclusions

- in case of limits in spending autonomy more decentralized tasks are crowded-out by regulated obligations- It is similar result to specific grants effect
 - specific grants, sometimes crowd-out other than granted tasks.
 - super-fly paper effect, when decrease of central specific grants caused important decrease of public spending, especially those which are less supported by local citizens or politicians
- This result presents the problem of equity between local units and adequacy of local revenues to decentralized expenditures.
- For proper understanding of local budget policy we need to take into account the interdependence of different tasks and remember that central regulation of one task influence all local spending



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Thank you for your attention