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Public expenditure efficiency in CESEE region

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Introduction (1)

Recent challenges in public finance management in Europe:

- Globalization
- Demographic trends
- Stability and growth pact
- As public **resources are scarce** need for expenditure cuts and **more efficient use** of existing resources is becoming more pronounced every day
- Thus public expenditure efficiency is becoming more popular area of research

Introduction (2)

- This paper analyses the efficiency of public expenditure in 15 CESEE countries.
- It represents the first analysis of public expenditure efficiency for this region
- The reason: these countries share the common economic transition background and transition-related challenges in terms of government size and efficiency.

- We analyze:
 - the overall public expenditure efficiency
 - healthcare,
 - education and
 - public administration.

Methodology

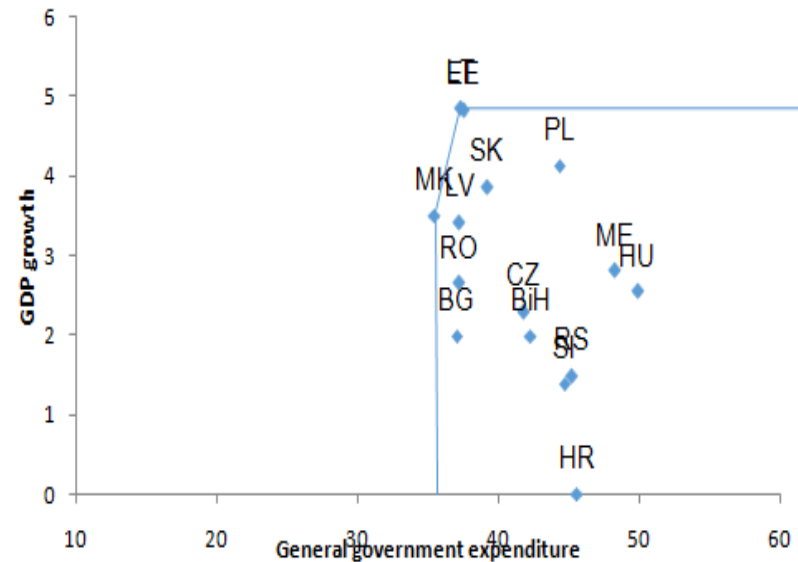
- Data envelopment analysis (DEA):
- A non-parametric linear programming method
- developed to measure **relative** efficiency
- **Input oriented**
- Variable return to scale (VRS)

- The results...

Overall public expenditure efficiency

Country	θ	Rank	Waste of Resources (1- θ)
Lithuania	1	1	0
Macedonia, FYR	1	1	0
Estonia	0.982	2	0.018
Bulgaria	0.939	3	0.061
Romania	0.926	4	0.074
Latvia	0.865	5	0.135
Slovak Republic	0.859	6	0.141
Poland	0.833	7	0.167
Czech Republic	0.801	8	0.199
Montenegro	0.775	9	0.225
Bosnia and Herzegovina	0.765	10	0.235
Serbia	0.745	11	0.255
Croatia	0.725	12	0.275
Hungary	0.703	13	0.297
Slovenia	0.673	14	0.327
Average	0.84		0.16

Source: author's calculations



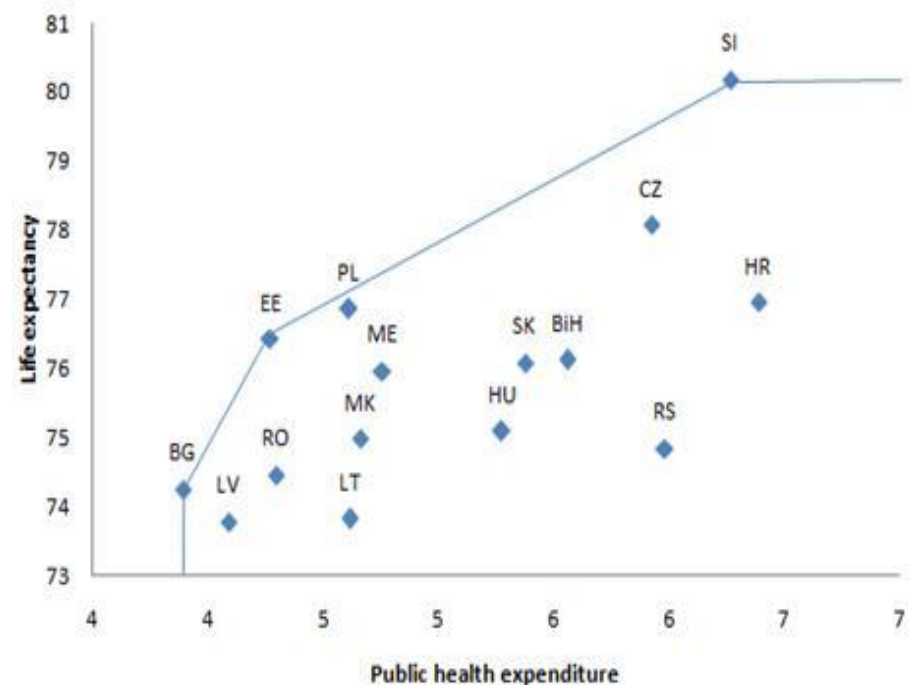
Source: author's calculations

Input: Total general government expenditure (% of GDP), average 2010-2014

Output: GDP growth (annual %), average 2010-2014

Public expenditure efficiency in healthcare sector

Country	DEA	Rank	Waste of resources (1-DEA)
Bulgaria	1.00	1.00	0.00
Estonia	1.00	1.00	0.00
Slovenia	1.00	1.00	0.00
Poland	0.98	2.00	0.03
Latvia	0.95	3.00	0.05
Romania	0.91	4.00	0.09
Montenegro	0.88	5.00	0.12
Czech Republic	0.87	6.00	0.13
Macedonia, FYR	0.86	7.00	0.14
Lithuania	0.84	8.00	0.16
Slovak Republic	0.78	9.00	0.22
Hungary	0.77	10.00	0.24
Bosnia and Herzegovina	0.76	11.00	0.24
Croatia	0.71	12.00	0.29
Serbia	0.67	13.00	0.33
Average	0.87		0.13



Source: author's calculations

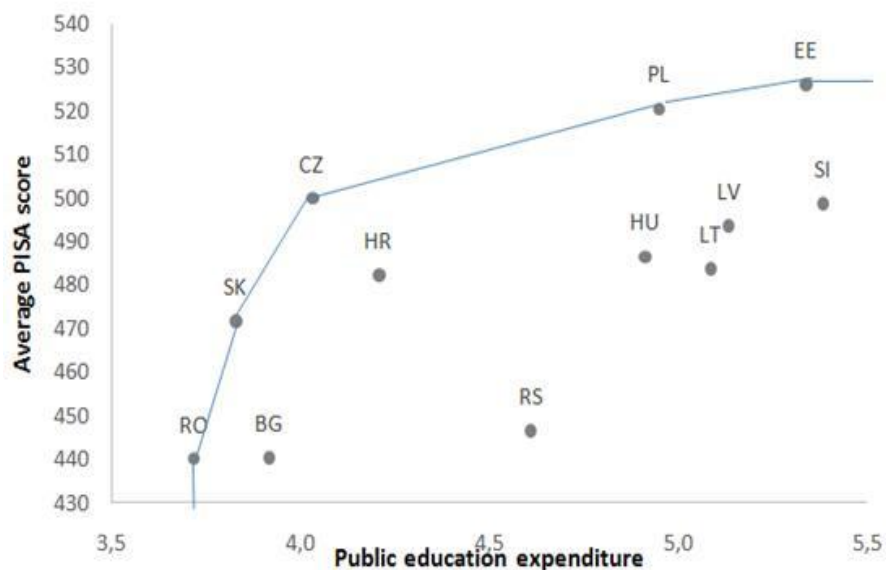
Source: author's calculations

Input: public expenditure on health (% of GDP), average 2005-2009

Output: life expectancy at birth, average 2010-2014

Public expenditure efficiency in education sector

Country	DEA	Rank	Waste of resources (1-DEA)
Czech Republic	1.00	1.00	0.00
Estonia	1.00	1.00	0.00
Poland	1.00	1.00	0.00
Romania	1.00	1.00	0.00
Slovak Republic	1.00	1.00	0.00
Bulgaria	0.95	2.00	0.05
Croatia	0.93	3.00	0.07
Serbia	0.81	4.00	0.19
Hungary	0.80	5.00	0.20
Latvia	0.78	6.00	0.22
Lithuania	0.78	6.00	0.22
Slovenia	0.75	7.00	0.25
Average	0.9		0.1



Source: author's calculations

Source: author's calculations

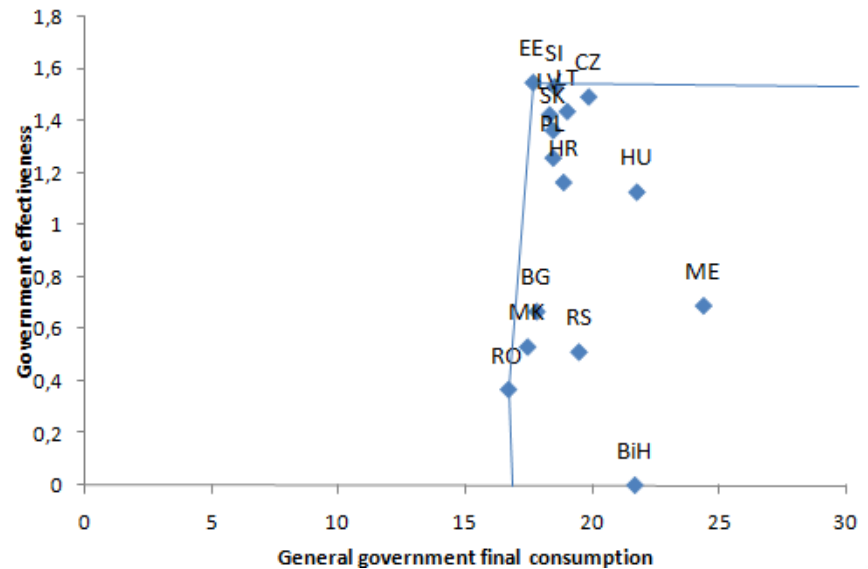
Input: average public expenditure on education (% of GDP) 2007-2011

Output: average score of 15-year-old students on the PISA test in 2012 (lag)

Efficiency of public administration expenditure

Country	DEA	Rank	Waste of resources (1-DEA)
Estonia	1	1	0
Romania	1	1	0
Macedonia, FYR	0.96	2	0.04
Latvia	0.96	3	0.04
Slovenia	0.95	4	0.05
Bulgaria	0.95	5	0.05
Slovak Republic	0.95	6	0.05
Poland	0.94	7	0.06
Lithuania	0.92	8	0.08
Croatia	0.92	9	0.08
Czech Republic	0.89	10	0.11
Serbia	0.86	11	0.14
Hungary	0.80	12	0.20
Bosnia and Herzegovina	0.77	13	0.23
Montenegro	0.70	14	0.31
Average	0.9		0.1

Source: author's calculations



Source: author's calculations

Input: general government final consumption expenditure (% of GDP), average 2005-2009

Output: government effectiveness (WGI), average 2010-2014

Conclusion

Conclusion

- The study finds that average size of the government in CESEE region is **above optimal** size
- General government expenditure could be **reduced by 16pp** of GDP on average, while keeping outputs at the same level
- As for the analysis of individual categories **weakest results** were recorded **in healthcare** sector (countries could attain the same output with, on average, **13%** less resources)

Recommendations for future research

- For future research it would be beneficial to investigate the efficiency of even more public functions to get a better insight into the sources of inefficiency
- Also, it would be useful to track **efficiency progress** in countries over time

Thank you for your attention!