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# Public expenditure efficiency and the optimal size of government in European union

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# Introduction

## Recent challenges in public finance management in EU

- Globalization
- Demographic trends
- Stability and growth pact
  
- Issue of **reduction of size** of government takes the center stage
- The key question is: Is it possible to **reduce the size** of the government **without hampering the economy's growth**?
- If so, how can it be done?

# Government size-growth relationship

## Literature shows mixed results regarding this relationship:

- Some researchers find **positive effect** (Ram, 1986),
- Others find **negative effect** of size of government on growth (Afonso & Jalles, 2011).

## BARS curve

- Recent research describes the size-growth relationship as **inverted U shaped** relation.
- This connection is in literature often named the BARS (Barro–Armey–Rahn–Scully) curve
- This relation implies existence of size of the government which **maximizes the growth rate**.
- The question is: How to find the optimal government size?

# The optimal size of the government

## Several ways of finding the optimal size of government:

- Parametric approach - growth regression
- Nonparametric approach - efficiency analysis
- Combined (nonparametric and parametric) approach

## Combined approach

- Conducted by Angelopoulos et al. (2008) and Rahmayanti & Horn (2011)
- The authors incorporated these efficiency scores into a growth regression
- Latter studies show a **significant effect of efficiency** in size-growth relationship. Specifically, the **efficiency-size mix is significant**.
- Examining the overall government size-growth relationship without controlling for efficiency can lead to **biased results**.
- Countries can **reduce their government size** by raising their efficiency with **no negative effect** on the economy.

# The concept of government expenditure efficiency

Explains the relation between the input and the output and eases to objectively measure the performance of public activities.

When it comes to efficiency, it is important to distinguish:

- technical efficiency
- allocative efficiency
- and overall economic efficiency

Government efficiency analysis can be conducted at:

- Aggregate level
- disaggregated analysis of specific government activities
- on local government level

# Methods for measuring efficiency

## **Nonparametric methods:**

- Data Envelopment Analysis (DEA)
- DEA/Tobit approach
- DEA/bootstrap procedures
- Free Disposal Hull (FDH)

## **Parametric methods:**

- stochastic frontier analysis (SFA)

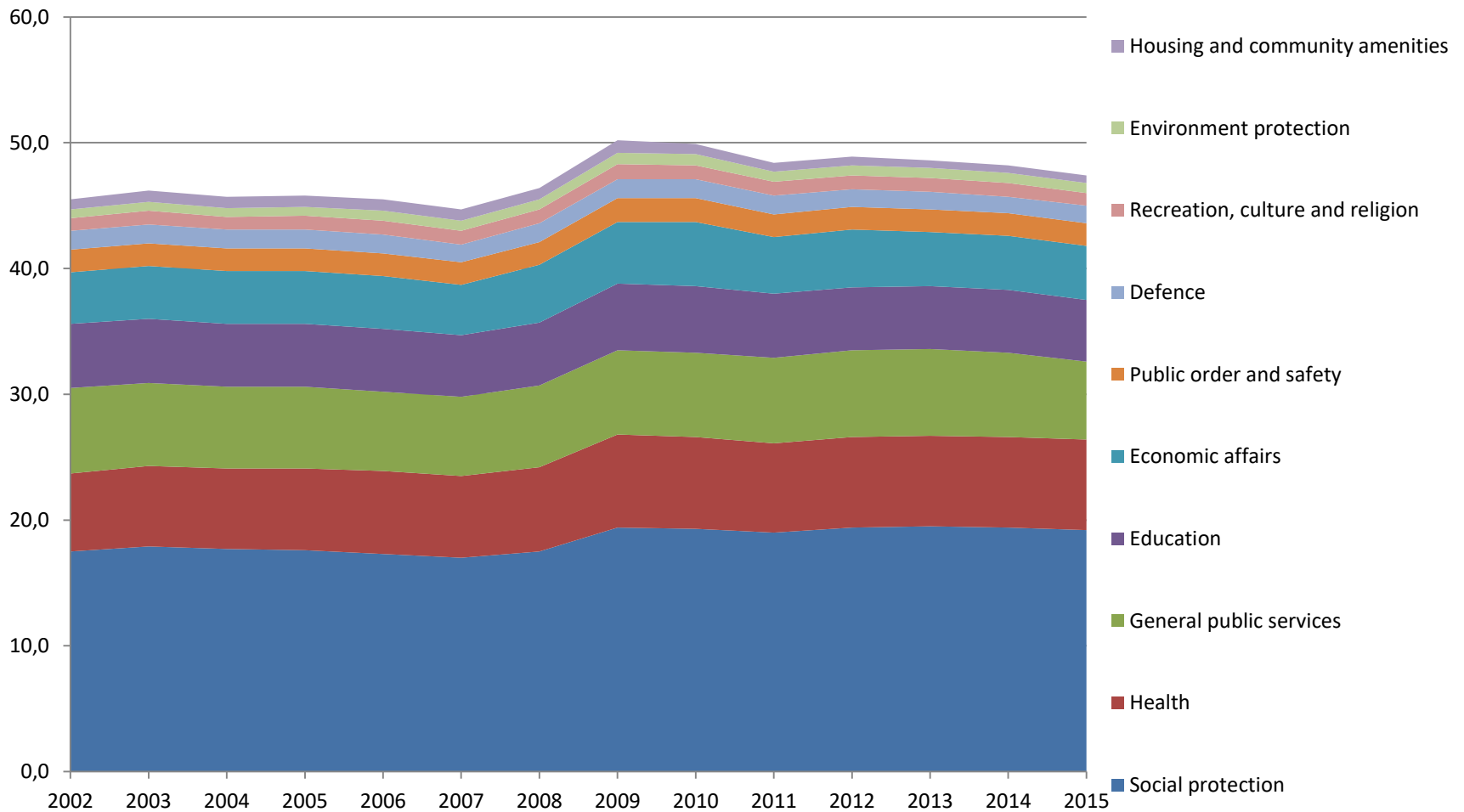
## **Composite indicators:**

- Public sector performance (PSP)
- Public sector efficiency (PSE)

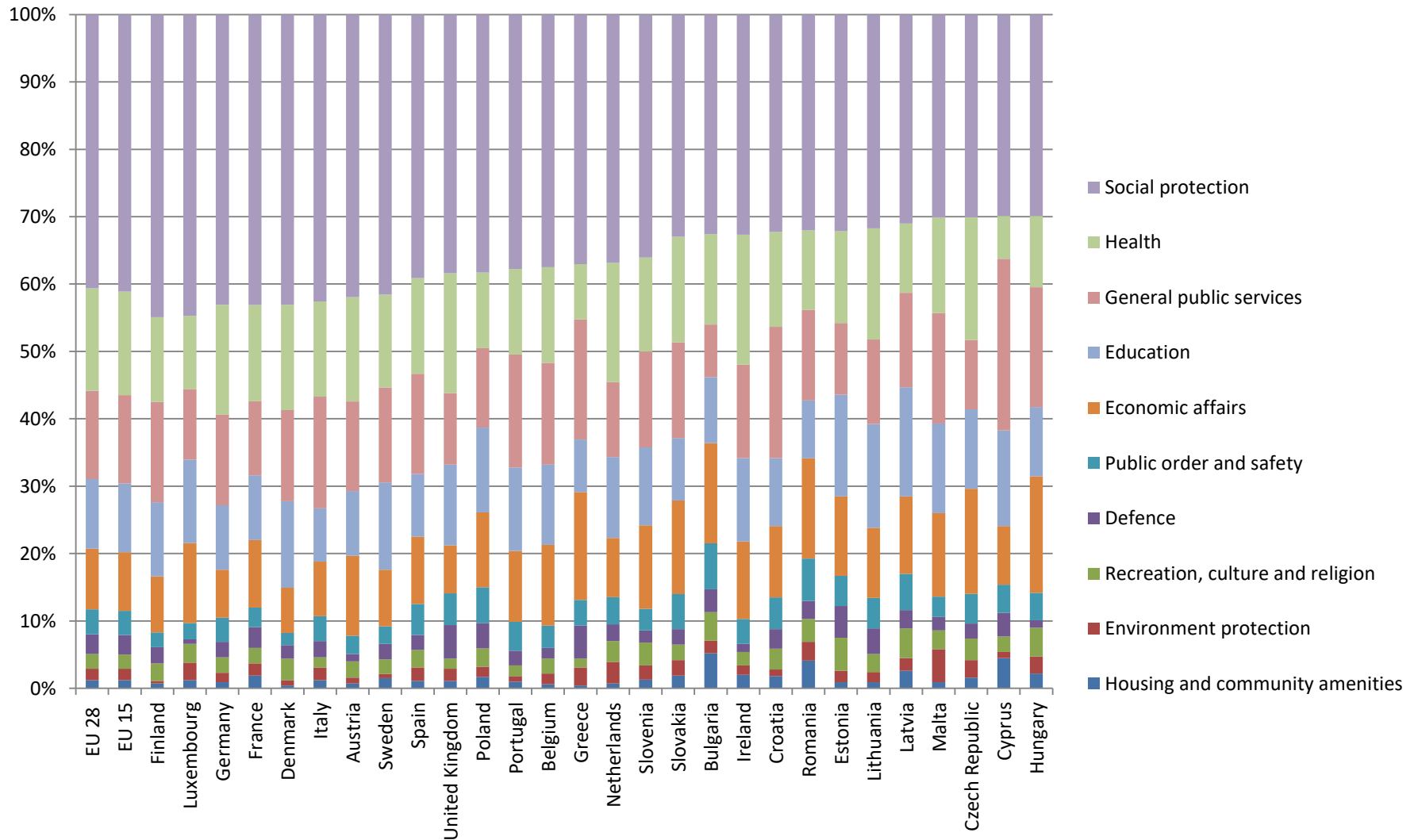
# Literature review

- Research in individual spending areas is more frequent than aggregate level analysis with health and education in the lead
- There is **high space for reducing the government expenditure** by using the resources more **efficiently** (Afonso et al., 2005a, 2010; Afonso & St Aubyn, 2005b; Aristovnik, 2009, 2011; Bađun et al., 2014).
- Afonso et al. (2005a) for 15 EU show that the **same level of output could be attained using only 73% of the inputs**.
- Bađun et al. (2014), find that **old EU** member states have, on average, larger and **more efficient** governments than **new EU** countries.
- Recent papers include the analysis of determinants of efficiency.

# EU-28 average general government expenditure by function 2002 - 2015 (% of GDP)



# EU-28 General government expenditure by function in 2015 (% of total government expenditure)



# Conclusion

## Conclusion

- Most countries suffer from government inefficiency and could **retain the same output with lower government size**.
- Substantial gains in measurement techniques have been made in the last years, but yet the **availability of data** is being a significant constraint in the analysis.
- Newer methods are able to distinguish inefficiency from exogeneous factors that are out of control of policy makers.

## Recommendations for future research

- The future lays in a **more targeted** analysis on **specific public functions** where the inputs, outputs and drivers of efficiency can be more accurately measured
- A more **in-debt analysis** can help create a **targeted policy mix** to improve efficiency and asses the performance of public sector.
- Also, it would be useful to track **efficiency progress** in countries over time.

Thank you for your attention!