Sharing A Government

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Bojos per l'Economia! 2025
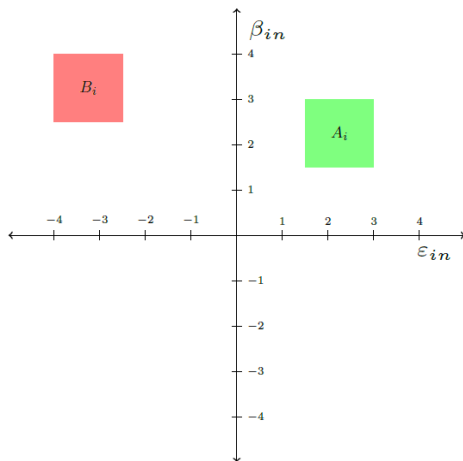
European regions

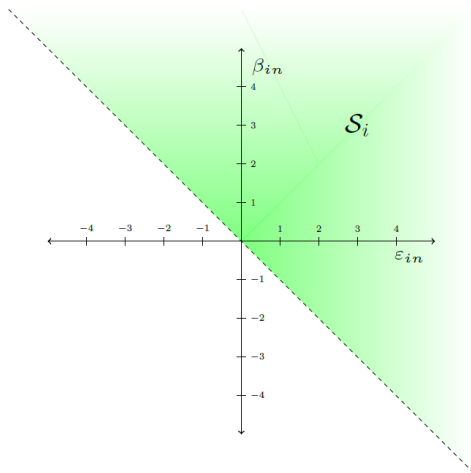Legend:
- Country border
- Region borders
- Sample

The classic assignment problem

- Many regions, each with its own government, share a union government:

- There are many political projects to decide:
    - Building a new infraestructure, changing public health or pensions coverage, enacting new laws that regulate the banking industry, imposing restrictions on school curriculae, ...

- Projects generate local benefits and externalities

- Designing a fiscal constitution:
    - What level of government (parliament) should decide these projects?
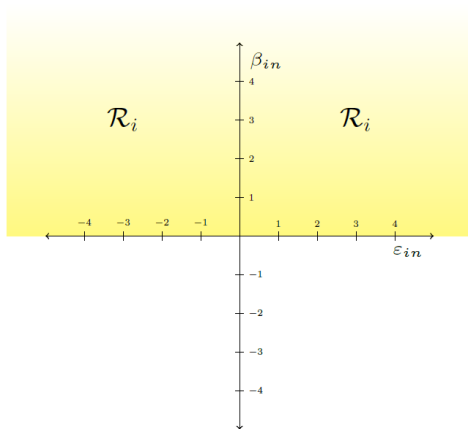
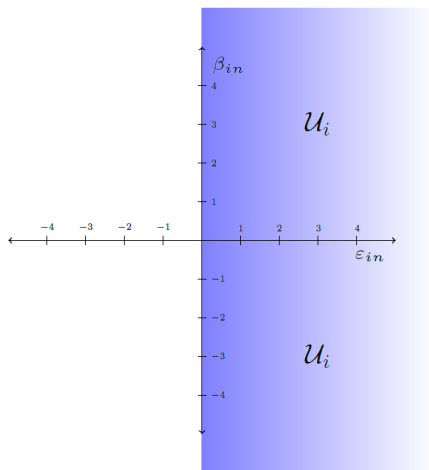# The project space

Economic efficiency

$$\mathcal{S}_i = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : \beta_{in} + \varepsilon_{in} \geq 0\}$$
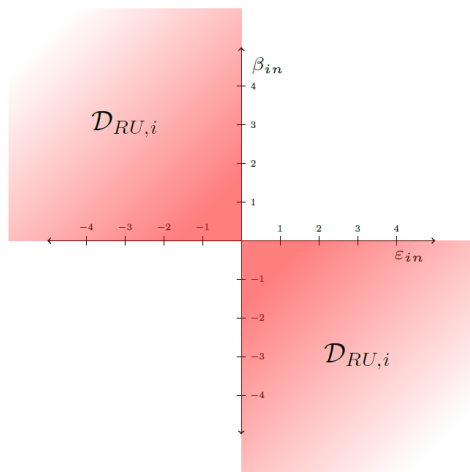
Decisions in regional parliaments

$$\mathcal{R}_i = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : \beta_{in} \geq 0\}$$
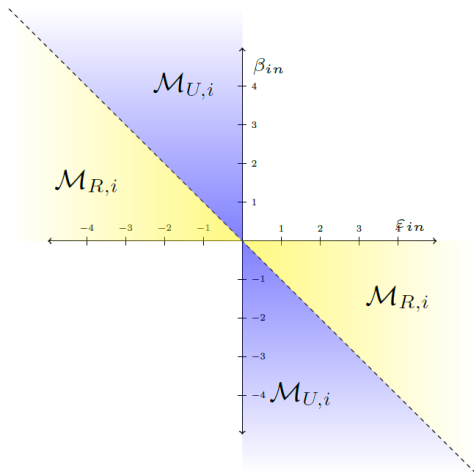
Decisions in the union parliament

$$\mathcal{U}_i = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : \varepsilon_{in} \geq 0\}$$

Disagreement between parliaments

$$\mathcal{D}_{RU,i} = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : \beta_{in} \cdot \varepsilon_{in} < 0\}$$
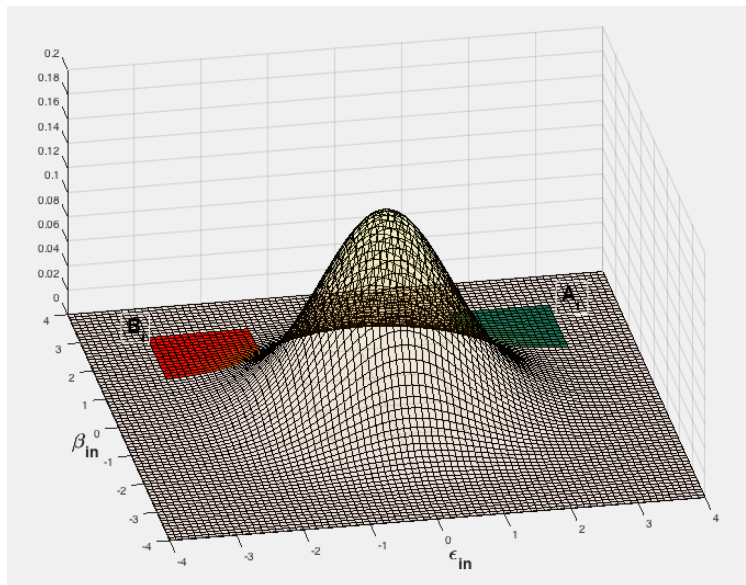
Comparing mistakes

$$\mathcal{M}_{R,i} = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : |\beta_{in}| < |\varepsilon_{in}| \text{ and } n \in \mathcal{D}_{RU,i}\}$$

$$\mathcal{M}_{U,i} = \{(\beta_{in}, \varepsilon_{in}) \in \mathbb{R}^2 : |\beta_{in}| \geq |\epsilon_{in}| \text{ and } n \in \mathcal{D}_{RU,i}\}$$

Fiscal constitutions

- Fiscal constitutions are an incomplete contract:

    ▸ All projects of a given type i and region n are decided in the same way

- Fiscal constitutions assign projects typically between two options:

    ▸ Projects of type i for region n should be decided by the parliament of region n
    ▸ Projects of type i for any region should be decided by the union parliament

- Let us search for the fiscal constitution that maximizes surplus

    ▸ What additional piece of information do we need to do so?
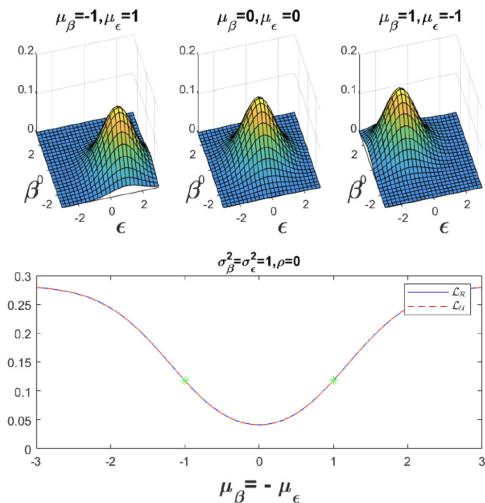
The distribution of projects

Example

FIGURE 6. Effects of changing μ_β and μ_ε keeping $\mu_\beta + \mu_\varepsilon = 0$.

Example

FIGURE 7. Effects of changing σ_β^2 and σ_ε^2 keeping $\sigma_\beta^2 \sigma_\varepsilon^2 = 1$.
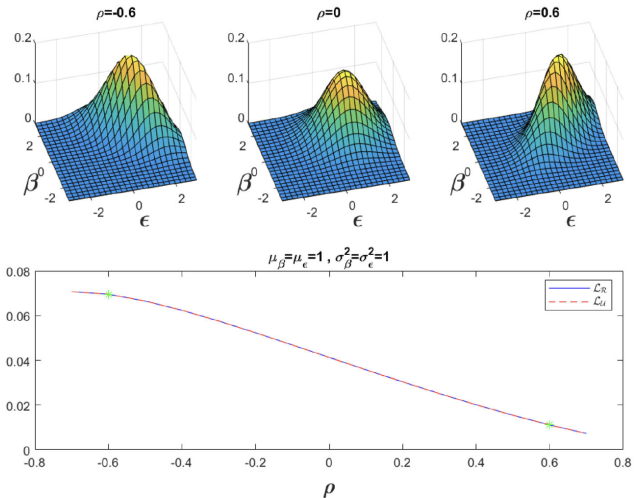
Example

FIGURE 8. Effects of changing ρ.

Are there ways to restore efficiency?

- This model shows that parliaments are likely to make errors:
  - ▶ Projects that deserve funding are discarded
  - ▶ Projects that do not deserve funding are funded

- Could regions bypass the union parliament and make Coasian bargains?
  - ▶ regions own the right to decide a project in their territory
  - ▶ regions can sell these rights in exchange for a monetary transfer
  - ▶ regions can solve free-rider problems

- Could legislative bargains make the union parliament a market for policies?
  - ▶ "If you vote for my project, I will vote for yours."
  - ▶ These bargains are not effective and create additional inefficencies