Measuring and Analyzing Regional Innovation Performance

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Traditional approaches:

Different measures:

- Absolute number of innovations
- Innovations per inhabitant
- Innovations per R&D employee

Varying definitions:

- Complete regional economy
- One sector
- Single industry

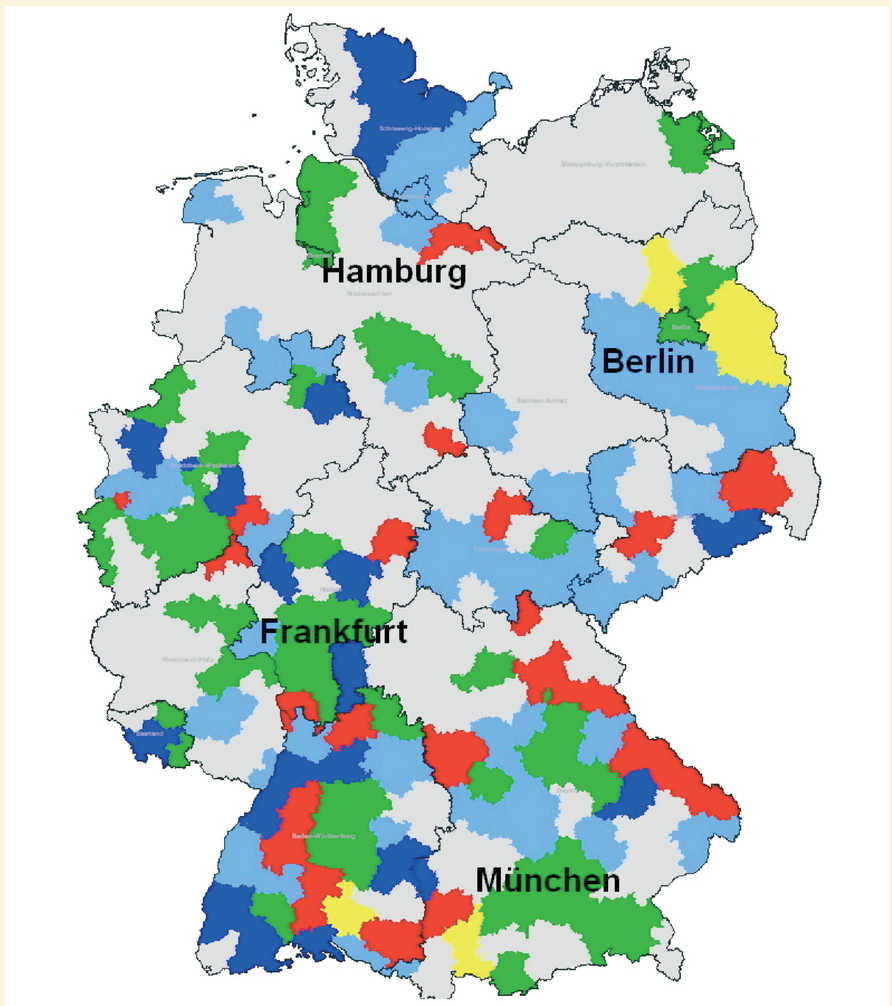
Consideration of regional factors

- No consideration
- Knowledge production function (Cobb-Douglas type)
- Linear production function

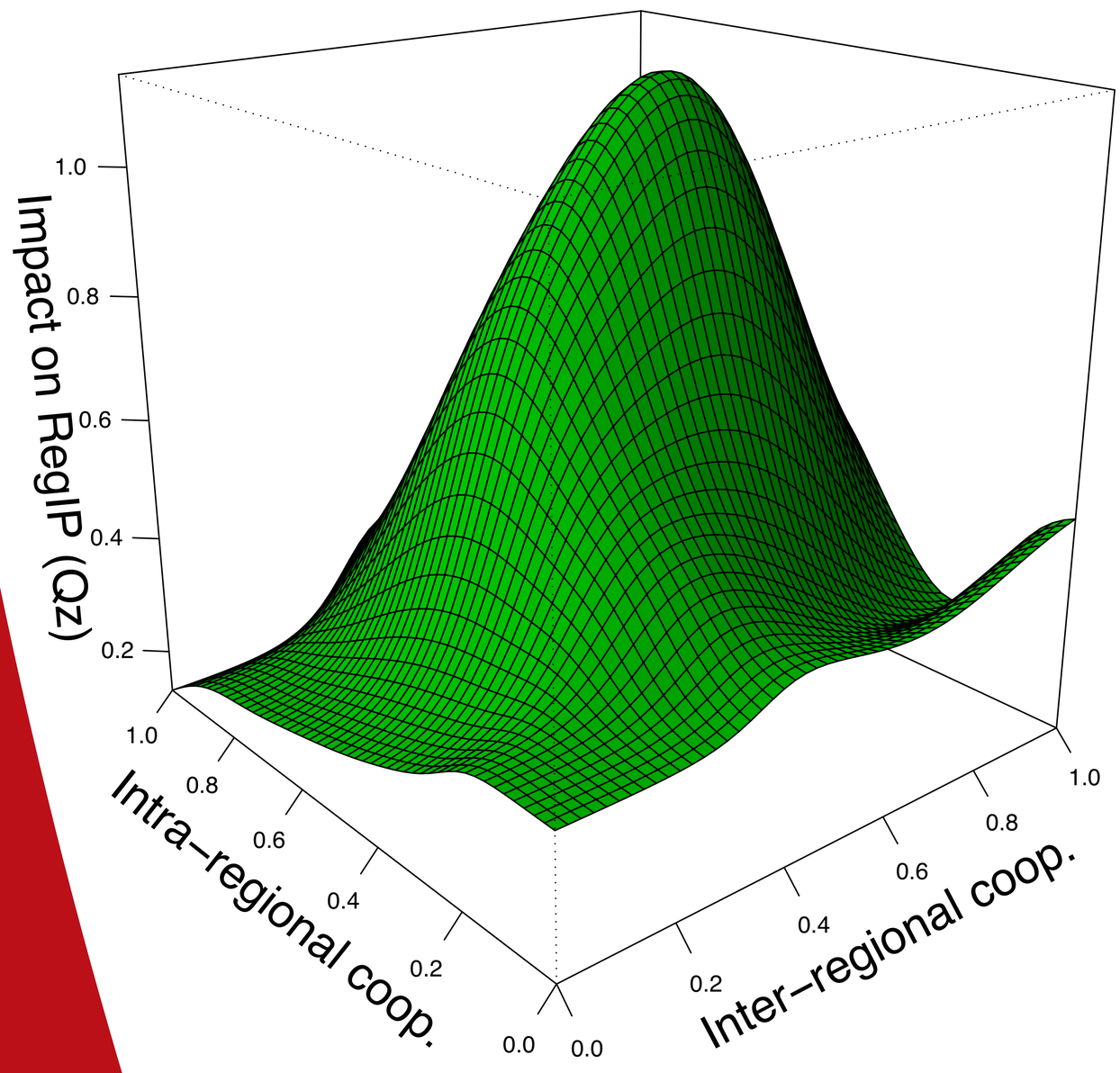
Approach: Regional Innovation Performance

- Regional innovation outputs are seen in relation to the economic efforts (input factors) used to generate them
- Application of nonparametric production frontier techniques
- Estimation and comparison of different performance measures

Regional Innovation Performance of German Electrics & Electronics Industry



Impact of intra- and inter-regional cooperativeness



The Bright and Dark Side of Cooperation for Regional Innovation Performance

Theory:

- Cooperation is crucial for R&D activities
- Cooperativeness can yield positive and negative effects
- Intra- and inter-regional cooperation matter

Empirical evidence:

- Mainly case study research
- Few large-scale quantitative studies
- Use of knowledge production function

Approach:

- Intra- and Inter-regional cooperation investigated simultaneously
- Cooperation modeled as cooperativeness
- Regional innovation performance approach
- Nonparametric production frontier techniques
- All 270 German labor market regions
- Industry-specific data (Electrics & Electronics)

Results:

- Bright and dark side effects
- Lock-in and lock-out situations
- Non-technological regional factors of little importance

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