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How to do public R&D spending in times of budgetary austerity

Some insights from SIMPATIC analysis

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How effective and efficient is public R&D funding ?

Insights from micro and macro economic (SIMPATIC) analysis

- ▶ Substantial heterogeneity in effects across countries
 - Handle with care: transferring best practices across EU member states
- ▶ Target should be firms that are impeded to develop R&D projects where social rates of return are substantially exceeding private rates of return.
 - General tax credits less effective;
- ▶ In view of the diminishing private returns to R&D investment
 - Inducing firms that are already spending on R&D to spend more, is costly for public budgets
 - A more promising target for public R&D programs would be to entice 'new' firms to engage in innovative projects., conditional they have socially valuable projects
- ▶ An important impediment for the effectiveness of public R&D programs, is the low application rate;
 - ▶ Reduce application costs
 - ▶ Improve the private returns of R&D projects:
 - ▶ framework conditions for innovation



To evaluate effects on GDP growth and jobs, we need to turn to macro-models.

There are few macro-models applied in policy evaluation that have an explicit modelling of the R&D growth process (NEMESIS & QUEST III).

Unfortunately, the available macro-models generate a large interval of predicted long-term effects on GDP growth and jobs, depending on how R&D is modelled within these models and calibrated.

In any case, the positive effects from public R&D support on GDP growth and jobs, take a long time window

Macro-models as instruments to analyse which **framework conditions** need to be in place to improve the impact of public R&D funding instruments: product market reforms, labour market and education reforms



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More proper micro and macro-evaluations are still needed.

Knowing which framework conditions are important for which countries and hence which structural reforms will be pivotal, is of first order importance.

- ▶ more micro-econometric impact assessment with the proper counterfactual exercises, preferably of the (quasi-)experiment type.
- ▶ more macro-economic work, improving the modelling of the impact of R&D and the calibrating with parameter values for effects from R&D policies that come from state-of-the-art micro-econometric impact assessments exercise.

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