

Seek Project 2010:

Taxation and Corporate Innovation

Motivation

- ▶ Europe 2020 Strategy based on the following economic policy consensus: Europe can only be successful as a knowledge economy.
- ▶ At the level of firms, corporate innovation is crucial to increase productivity and market success of European companies.
- ▶ The tax system impacts on the risk return-profile of R&D activities codetermines the geographic location of research and/or proceeds (e.g. patents).
- ▶ Using tax competencies, national and sub-national governments are responsible to create an environment that is conducive for innovation.

Research Questions

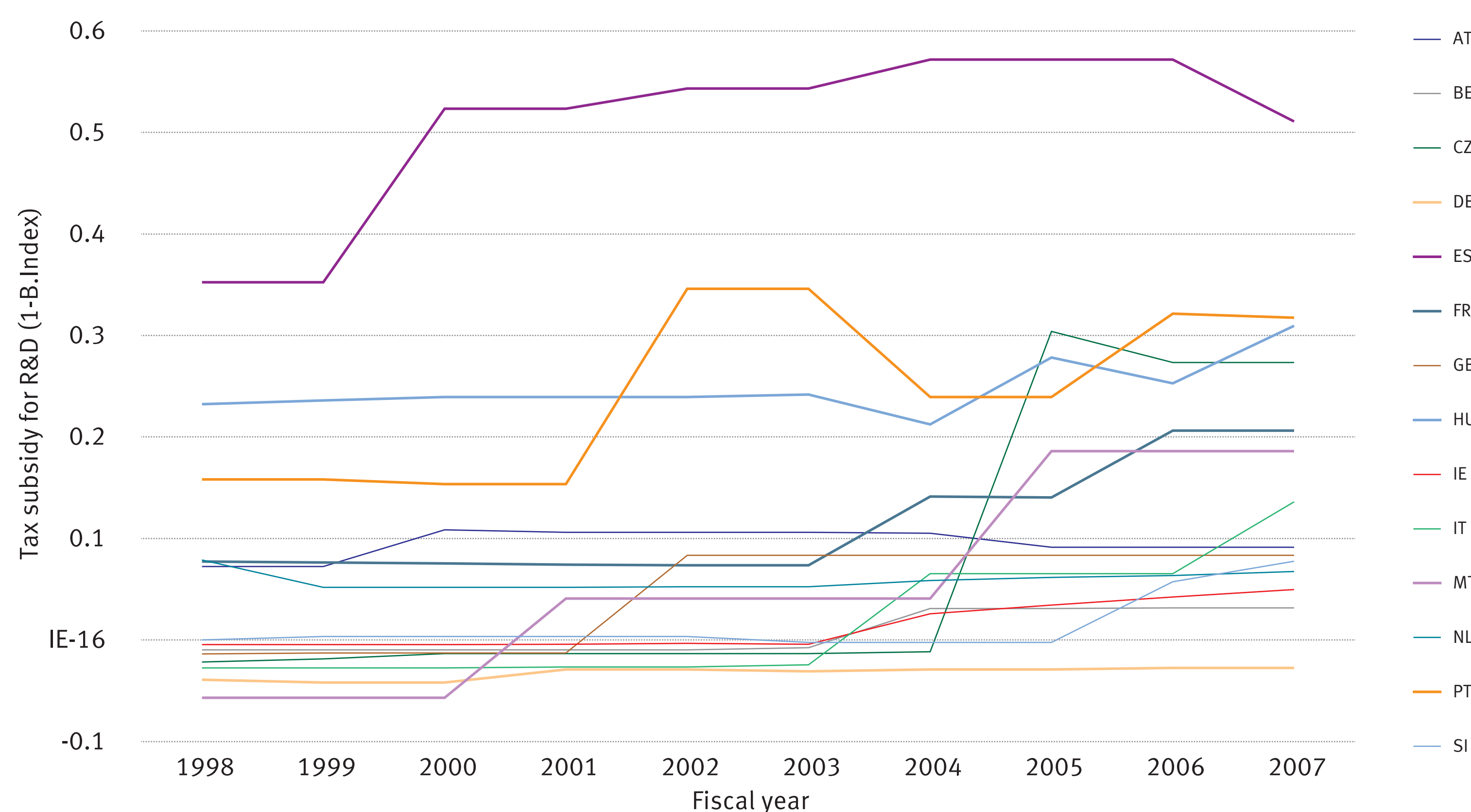
- ▶ Guiding question: How do taxes influence incentives of firms to invest in R&D activities and to create intellectual property?
- ▶ The project focuses on the impact of taxes on R&D and the creation of intellectual property in a multidimensional way including tax incentives.
- ▶ In the project we will determine the impact of tax variation on firm innovation and productivity.
- ▶ We will provide European and national policy makers with a more precise understanding how an innovation friendly tax system should be designed.

Research Team

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Some Descriptives

Development of the Tax Subsidies for R&D Costs (Selected Countries)



Some First Results

- ▶ We find an increasing number of tax incentives for R&D activities in Europe between 1998 and 2007.
- ▶ The regression results show of
 - positive effect of R&D tax incentives on patenting: 1.2% for 1% decrease of B-Index (B-Index measures the relative attractiveness of tax effects of R&D expenditure)
 - Increase of average number of patents as a result of a 1% decrease of the tax rate

Data

- ▶ The research project takes a micro-approach in the context of European data.

Subproject 1:

- ▶ We combine two data sources to obtain a unique dataset:
 - We use a large panel of German firms (Mannheim Innovation Panel, MIP) which enables us to derive measures of total factor productivity.
 - We exploit variation in municipal taxation.

Subproject 2:

- ▶ We exploit data using patent applications provided by the European Patent Office. The patent data provided by the European Patent Office are merged with firm level data (e.g. the AMADEUS database) which enables us to link information on the R&D location and patent ownership to profit measures and information on ownership structures.

Methods

Subproject 1:

- ▶ In the first stage, we employ three sets of different estimation methods:
 - Estimation of production functions
 - Estimation of index numbers
 - Stochastic frontier methods
- ▶ In the second stage, the impact of fiscal policy on the productivity measures obtained in the first stage is estimated by using appropriate panel regression techniques.

Subproject 2:

- ▶ The approach uses patent data linked with firm-specific financial and accounting data as well as data on effective tax rates which provides a unique database that can be exploited to substantiate policy advice. We use logit and negative binomial regression techniques.