Borders, Geography, and Oligopoly: Evidence from the Wind Turbine Industry -

Main data description

The Danish wind turbine installation data comes from:
Danish Energy Agency
http://www.ens.dk/info/tal-kort/statistik-noegletal/oversigt-energisektoren/stamdataregister-vindmoller

Is freely available on the web. We used the September 2010 version of the data.

The German wind turbine installation data comes from:
Betreiber-Datenbasis, Dorfstr. 14, 24594 Rade, Germany
Contact: Jochen Keiler (j.keiler@BtrDB.de**)**
Webpage: http://www.btrdb.de/sto.html

We purchased the data on February 28 2011 (all wind turbine installations until year 2005). The German data set is confidential, so we do not provide it in these files.

Data cleaning

Both data sets provide wind turbine level information. We collapse the turbine level data to the wind farm (project) level. The German data provides a wind farm level identifier. The Danish turbine level data we collapse to project level by using information on producer, year installation, local authority number, cadastral district, and turbine capacity (if all these variables are common the turbines are assigned to the same project). The Danish data comes directly with x and y coordinates, which we convert into longitude and latitude using an additional file provided. The German data has zip code information and we obtain longitude and latitude using an additional file purchased from www.geopostcodes.com .

We find the coordinates of border crossings between Denmark and Germany, and the coordinates of producers. We spotted the border crossings using Google Earth, which also gives their coordinates.

For the producers, we obtained the addresses of primary production facilities using online sources, annual reports, and expert interviews. We then find their coordinates using Google Earth. The excel file **ProducersAdresses.xlsx** has the details of that work.

We calculate great circle distances to the producers and the border (using the minimum distance to the five border crossing points). We get road distances from Google Maps using longitude and latitude of the producers and the wind farms. The python code that extracts this information is called distmat.py and contained in \Data\additional_files. Road distances to the producers are used in the estimation, but great circle distances give similar results and the code to obtain them is included in this file.

The stata code contained in \Data\do_files contains the cleaning steps which convert the original files into the data set files used in our analysis.