

Marie-Anne Plagnet

INTERNATIONAL BENCHMARKING – COMPARISON OF FRENCH AND GERMAN ELECTRICITY DISTRIBUTION UTILITIES

EDF, R&D - 1, avenue General de Gaulle, 92120 Clamart
Tel : 01 47 65 39 59, e-mail: marie-anne.plagnet@edf.fr

We present an international benchmarking study, looking at the two largest European Electricity distribution countries, France and Germany, which represent the main players on the European Electricity market. In the background of two complement different market structure we figure out the relative performance of 77 German and 99 French distribution companies. The German data are for 2001 and the French one for 2003.

This paper applies different parametric approaches to assess the technical efficiency, such as the deterministic corrected ordinary least squares (COLS) and the stochastic frontier analysis (SFA). The analysis aims to figure out methodological and data issues in the use of benchmarking analysis for utility regulation. In our base model we use on one side the number of employees as a proxy for labor and network length as a proxy for capital as inputs. On the other side units sold and the number of customers are considered as outputs. In different model variations we analyze the effect of different characteristics of distribution areas such as the population density and the choice of investment in underground cable network.

We compared the different distribution areas (rural versus urban) and figured out that across all models the companies in urban areas regularly come up with the higher efficiency scores. Including the Inverse Density Index in the nonparametric models in order to compensate utilities which are operating in less densely settled areas indicate that small rural companies gain technical efficiency. In addition, we confirm that the ratio of underground vs aerial network lengths plays an important role in the activity of distribution and appears to have an impact on the level of employees. French distribution companies take advantage of such a model because of a low rate of cables vs overhead lines in relation with the low densely populated areas covered in France.

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