

European Electricity Market Design And Its Impact on market Integration

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The electricity sector worldwide is undergoing a fundamental transformation of its institutional structure as a consequence of the complex interactions of political, economic and technological forces. The way the industry is organized is changing from vertically integrated monopolies to unbundled structures that favor market mechanisms. This process in Europe, known as the liberalization process, has had a wide impact on the European electricity industry. The focus of this paper is an analysis of the role of electricity power exchanges for the creation of a common European electricity market. Since market structures in most European markets are historically heavily concentrated in most European countries, the creation of a common market appears to be a good solution for diluting national market power. In this paper we aim to test the level of market integration in Europe based on power exchanges prices. Two econometric analyses are done using power exchanges prices of major European electricity markets.

The extent to which electricity prices in the different countries are related is of considerable interest from a market definition perspective. In this paper we will consider prices in several European locations during the year 2002 to test the level of market integration of electricity markets in accordance with the objective of the liberalization process to create a single European market. In principle, in an integrated electricity market, one would expect to find a high correlation across the market between prices. However our results give limited support to this assumption of a single "European electricity market". Our econometric evidence points in one direction: the European electricity market is not integrated. From this analysis, a question emerges: What are the reasons for this lack of integration? We will try to answer this question and argue that the lack of market integration which mean a lack of efficient arbitrage between markets is directly related to market design and especially to the existence of inefficient transmission pricing for cross-border trading.