

Title: Price forecasting in the day-ahead Iberian electricity market using a conjectural variations ARIMA model

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Abstract: Price forecast is a matter of concern for all participants in electricity markets, from suppliers to consumers through policy makers, which are interested in the accurate forecast of day-ahead electricity prices either for better decisions making or for an improved evaluation of the effectiveness of market rules and structure.

This paper describes a methodology to forecast market prices in an electricity market using an ARIMA model applied to the conjectural variations of the firms acting in an electricity market. This methodology is applied to the Iberian electricity market to forecast market prices in the 24 hours of a working day. The methodology was then compared with two other methodologies, one called naive and the other a direct forecast of market prices using also an ARIMA model.

Results show that the conjectural variations price forecast performs better than the naive and that it performs slightly better than the direct price forecast.

Author Keywords: ARIMA model; Conjectural variations; Electricity market simulation; Iberian electricity market; Price forecasting; Strategic behavior

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