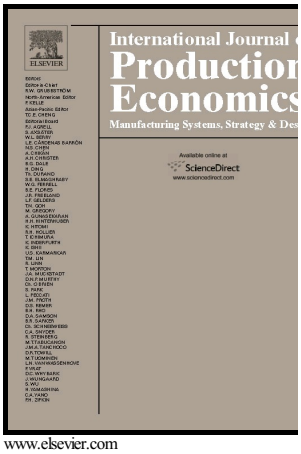

Forecasting german car sales using google data and multivariate models

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Forecasting German Car Sales Using Google Data and Multivariate Models

Abstract

Long-term forecasts are of key importance for the car industry due to the lengthy period of time required for the development and production processes. With this in mind, this paper proposes new multivariate models to forecast monthly car sales data using economic variables and Google online search data. An out-of-sample forecasting comparison with forecast horizons up to 2 years ahead was implemented using the monthly sales of ten car brands in Germany for the period from 2001M1 to 2014M6. Models including Google search data statistically outperformed the competing models for most of the car brands and forecast horizons. These results also hold after several robustness checks which consider nonlinear models, different out-of-sample forecasts, directional accuracy, the variability of Google data and additional car brands.

Keywords: Car Sales, Forecasting, Google, Google Trends, Global Financial Crisis, Great Recession.

JEL classification: C22, C32, C52, C53, L62.