

Bayesian Nowcasting of German GDP - a Precision-Sampler-Based Toolbox

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Abstract

In this work, we develop a suite of real-time nowcasting tools that are compatible with the precision sampler for missing Gaussian data by Chan et al. (2023). First, we introduce a novel way to perform news decompositions in the absence of the Kalman filter. Second, we describe a data-driven way for conditional scenario forecasting which helps to gauge tail risks and directly allows for incorporating impulse responses derived from structural analyses. Third, we introduce adaptive aggregation schemes for very high-frequency covariates in factor models. In the application, we use a large data set of macroeconomic indicators, as well as alternative non-standard regressors obtained from "Deutschland Dashboard" to nowcast German GDP in real time. The framework naturally provides density forecasts and monthly measures of GDP. A large scale model comparison reveals that simple dynamic factor models consistently outperform elaborate model averaging techniques. Moreover, high-frequency variables improve early-quarter nowcasts in times of economic turmoil like the COVID-19 crisis.

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