

The Nowcasting Lab @ KOF, ETH Zurich

M. Daniele, P. Kronenberg, H. Mikosch,
S. Neuwirth, T. Reinicke, S. Siegrist, and S. Thöni

KOF Swiss Economic Institute, ETH Zurich

AIECE Meeting, 27 November 2021

Motivation

Experience 1:

- Nowcasting model projections as input for periodic macroeconomic forecasting process.
- Actual relevance of these projections depends on discretionary decisions during the process.

Experience 2:

- Nowcasting models often work nicely in the empirical applications of published academic papers.
 - They work sometimes less well when applied to new data.
- ⇒ Set up a tool where nowcasting models can be transparently observed in a *real* out-of-sample environment.

The Nowcasting Lab in Nutshell

- Automated code-database-website environment
- Nowcasts and one-quarter ahead forecasts for quarterly GDP growth of European countries
- Several nowcasting models
- Large datasets
- Daily update

Target groups

The public

- Quick overview on up-to-date forecasts
- Simple and intuitive presentation

Research institutes and public institutions (central banks, ministries, e.g.)

- Model skills and data knowledge exists
- But: Often no time/resources to implement and maintain forecast models for all covered countries

Target groups (continued)

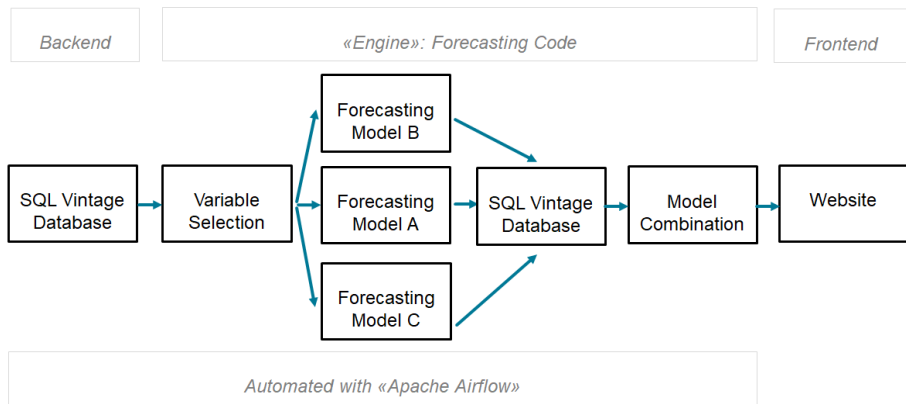
Financial sector: Macro research

- Forecasting skills and data knowledge exists
- But: Often no time/resources to implement and maintain elaborate forecast models

Academic research

- Real-time database with daily vintages
- Implementation of new forecast models/methods. Automated real out-of-sample forecast horse races
- Thousands of daily forecasts for research on forecast combination methods

Technical structure



Data and forecasts

- Target variable: GDP (extension to other variables as an option for the future).
- Forecast horizon: Nowcasts and one-quarter ahead forecasts.
- Forecast updates: Overnight (or possibly intra-day as new data get released).
- Countries: Euro Area, Germany, United Kingdom, France, Italy, Spain, Netherlands, Switzerland, Austria, Poland, Sweden, Belgium. (Portugal and Hungary requested.)
- Indicator data: Approx. 250 daily and monthly macroeconomic and financial time series per country.

Models

- DFM following Banbura, Giannone, Reichlin (in: Oxford Handbook of Economic Forecasting, 2012)
- MIDAS following Clements and Galvao (Journal of Applied Econometrics, 2009) or several papers by Ghysels and co-authors.
- U-MIDAS following Forni, Marcellino, Schumacher (Journal of the Royal Statistical Society, 2015)
- Bridge model following, e.g., Baffigi, Golinelli and Parigi (International Journal of Forecasting, 2004).
- AR, ARIMA, Random Walk, Rolling In-Sample Mean to be implemented soon.
- Elastic Net Variable Pre-Selection following Zou and Hastie (Journal of the Royal Statistical Society, 2005).
- Forecast following Timmerman (in: Handbook of Economic Forecasting, 2006).

Future goal

- Invite other institutions to jointly maintain and extend the Nowcasting Lab.
- Invite researchers to become part of the lab and to jointly implement new nowcasting models into the model set.

The website

`https://www.nowcastinglab.org`