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Uncertain Kingdom: Nowcasting GDP and its Revisions

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Macroeconomic forecasters face a dilemma when nowcasting current economic conditions and key macroeconomic aggregates. As the release of these data is subject to potentially large revisions, it is not normally clear which release a forecaster should aim to predict. On the one hand, early releases permit a timely assessment of current economic conditions, but are inherently incomplete. On the other hand, the long publication delay of more mature estimates can act as a deterrent even if these data are potentially more reliable.

In this paper, we propose a new econometric framework to nowcast data subject to revisions that mimic as closely as possible the behaviour of a professional forecaster by explicitly accounting for the information contained in the data flow and in the subsequent estimates of the target variable, the real UK GDP growth in our case. We call this model the Release-Augmented Dynamic Factor Model. The novelty with respect to the previous nowcasting models resides in augmenting the measurement equation of the state-space representation of the model with the consecutive official estimate for the target variable, and relative to the same quarter. In this way, the model is able to forecast quarterly GDP growth beyond the release of the first estimate of the statistical office, and allows for a simple characterisation of the stochastic process for the revisions to the initial releases of GDP data. Within this framework, we are also able to assess the contribution that different pieces of data have in informing updates to i) nowcast of current GDP growth, ii) uncertainty around point forecasts, and iii) forecasts of the revisions to previously released GDP data.

By evaluating the real-time performance of the model, we find that it produces accurate estimates of the 'true' GDP growth, measured using the latest available vintage of data, and that it contains information useful to predict 'true' growth beyond what is contained in official earlier estimates. While retaining parsimony, and without the introduction of any element of judgement, the model performs well when compared to model combinations and judgement-based forecasts embedded in the predictions of institutional forecasters. Finally, we found that the model yields well calibrated predictive intervals, and that 'hard data' are most informative in forecasting future revisions to GDP releases.