Comments on "A Flexible Bayesian MIDAS Approach for Interpretable Nowcasting and Forecasting" by D. Kohns and G. Potjagailo

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My comments do not necessarily represent the views of the Federal Reserve Bank of Cleveland or the Federal Reserve System.

October 6, 2022

Overview

Good paper!

Paper in broader context of the literature

Questions/suggestions for further analysis or discussion

- Scope and goals
- Empirical analysis and results

Paper in context

Methodology: Extending Mogliani and Simoni's (2021) Bayesian treatment of MIDAS by cleverly adding features from other models/papers

- MIDAS-appropriate GIGG prior: panel literature
  - Clever prior and associated sampling algorithm
- Time-varying trend: Antolin-Diaz, et al. (2017, 2021)
- Stochastic volatility (SV): Clark (2011, *JBES*), Carriero, et al. (2015), Antolin-Diaz, et al. (2021)
- Fat tails in SV/outliers in volatility: Jacquier, et al. (2004, *JoE*), Clark and Ravazzolo (2015, *JAE*), Chiu, et al. (2017, *IJF*)

Empirics: Nowcasting GDP growth in the UK

- UK less studied than US
- Some emphasis on the pandemic period

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Question/suggestion 1

In the nowcast evaluation, adopt a partially real-time setup: Use real-time data for GDP and final for predictors

- Method and model are specific to nowcasting, which is an inherently real-time problem
- Using real-time GDP vintages relatively straightforward

Question/suggestion 2

What should be the goal — nowcasting well before/after the pandemic or during? (Question for practice and journal strategy)

- Paper puts some emphasis on pandemic performance
- But is that now in the past? How much should we care about COVID-specific now?
- How will the model adapt and fare in accuracy post-pandemic?

Question/suggestion 3

For nowcasting, do we necessarily need sparsity — maybe we want it in some data settings and not others?

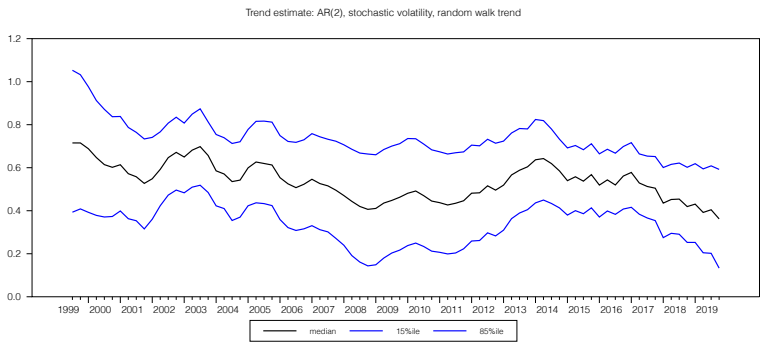
- Under some approaches, nowcasting = adding up GDP components as they come in $\Rightarrow$ lots of indicators get weight
  - Seems like sparsity may be more harmful than helpful in these settings
- Should we think of sparsity as more appropriate/helpful when predictors are different business cycle indicators and not GDP components?
  - Should we think of this setting as the rationale driving the paper?

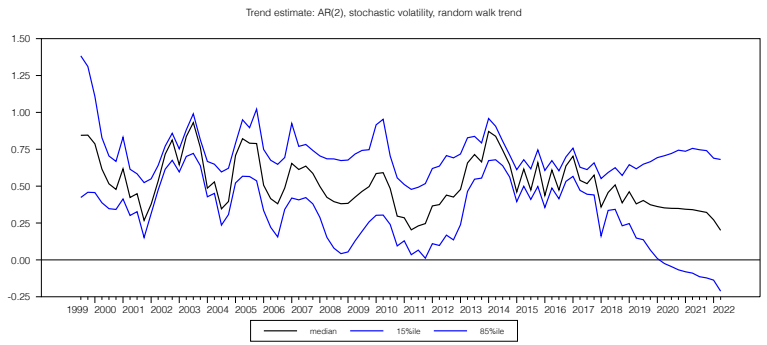
Question/suggestion 4

Investigate more the interaction of trend, SV, and outliers and their impacts on the trend estimates and forecast accuracy

- Pre-COVID trends very sensitive to SV and fat tail specs. (Fig. 2). E.g., why do fat tails have so much impact?
  - Fat tails: high frequency volatility changes. Trend: low frequency mean changes. Why so much impact of the former on the latter?
- Some trend estimates are highly variable — plausible?
  - COVID volatility adds to trend est. challenges

Trend estimates from AR(2) w./ SV, 1999-2019 and 1999-2022





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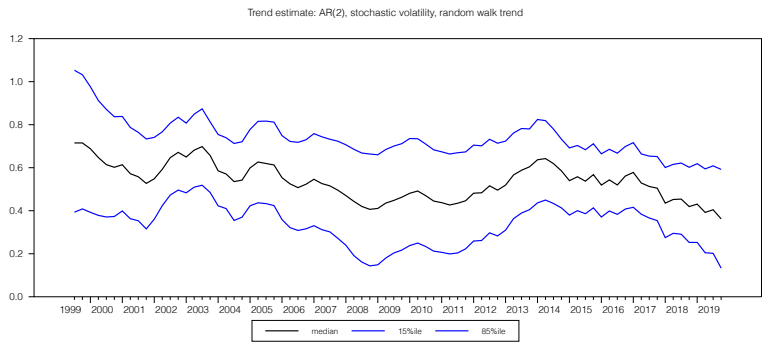

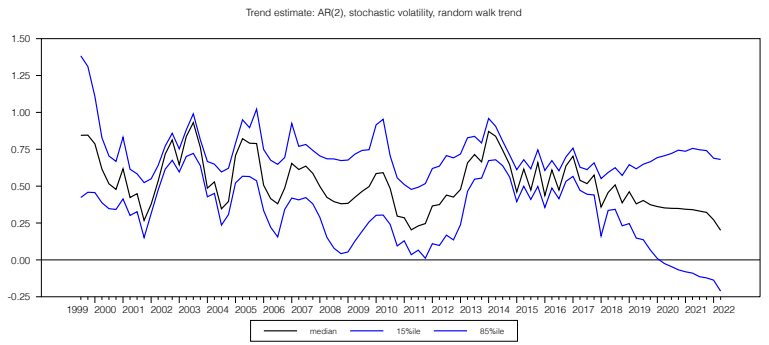

Question/suggestion 4, continued

Investigate more...

- Some aspects of RMSE vs. CRPS performance seem surprising — what drives this behavior?
- Fig. 3, pre-COVID: Why is RMSE performance more dispersed than CRPS?
- Why does adding fat tails (T-SV-t vs. T-SV) have more benefit to RMSE than CRPS?
  - Yet with constant trend, SV-t and SV are about the same in both RMSE and CRPS.
  - Why is SV only useful when combined with fat tails?

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Question/suggestion 5

To help make a really compelling case for the overall approach, a few more comparisons could be useful:

- What's the marginal benefit of MIDAS as compared to blocking as in Carriero, et al. (2015)?
  - Can easily augment model of CCM to include time-varying trend and fat tails
  - Concern with simple fixed priors could be addressed with Chan's (2021, *IJF*) generalization of Minn. priors
- What if vol. outliers are large and infrequent as in Carriero, et al. (2022, *RESTAT*) rather than small and frequent as in fat tails spec.?
- What if outliers were additive as in Antolin-Diaz, et al. (2021) rather than multiplicative?

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