Conditional Forecast in Large Bayesian VARs with Multiple Soft and Hard Constraints a Discussion

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Why I liked this paper:

The authors propose a uniform setup to estimate conditional forecasts allowing for:

- Imposing hard constraints
- Imposing soft constraints
- constraining observables
- constraining structural shocks
- doing scenario analysis

This is a very ambitious task

And using a precision-based sampler, it is also quite (time) efficient.

Things I would have liked to read:

- A clear explanation of where the improvement comes from: (in my understand it comes from using) the algorithm by Chan & Jeliazkov (2009) **for which you need** to derive the conditional forecasting distribution in terms of inverse covariance matrix. Is this correct?

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- A clear explanation of where the improvement comes from: (in my understand it comes from using) the algorithm by Chan & Jeliazkov (2009) **for which you need** to derive the conditional forecasting distribution in terms of inverse covariance matrix. Is this correct?
- The theoretical part of the paper aims to be an unified framework that allows for all the way one wants to do conditional forecasting. However, it gets a bit lost in all the sections. In particular...

Questions:

- In equation (9) the authors pick one restriction:

$$\boldsymbol{\mu}_\varepsilon = \left(RH^{-1}\right)^{+}\left(\boldsymbol{r} - \boldsymbol{RH}^{-1}\boldsymbol{c}\right)$$

$$\boldsymbol{\Psi}_\varepsilon = \left(RH^{-1}\right)^{+}\left(\boldsymbol{\Omega} - \boldsymbol{R}(\boldsymbol{H}'\boldsymbol{H})^{-\boldsymbol{1}}\right)\left(RH^{-1}\right)^{+'}$$

  Why did you pick this one? How restrictive is this choice? Can I use other restrictions? I see in the application that you use another one so I imagine no, but it would have been nice to read this early on.

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- In the application, several things are going on: choice of prior, shrinkage, constraints...what is the impact of each of these on the improved forecast accuracy?

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- This method suits very well density forecasting and how to communicate the forecasts' uncertainty under soft constraints!

You should consider to use this method if:

You are interested in conditional forecasting especially under soft constraint using large VARs (which is the ongoing task policymakers face). When can we have the code?