Research Working Papers

A New Approach to Integrating Expectations into VAR Models

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Survey forecasts are incorporated into VAR models using Bayesian methods to enhance inflation forecasts and sharpen the identification of forward guidance shocks.

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Expectations play a central role in macroeconomics. Expectations are empirically measured from surveys or financial markets and are frequently analyzed in Vector autoregression (VAR) models alongside realized data of the same variable. However, this leads to two different expectations for the same variable: the VAR-based forecast and the external forecast. This paper proposes a Bayesian prior over the VAR parameters which allows for varying degrees of consistency between these two forecasts. As we demonstrate in two applications, our approach can sharpen structural VAR identification of forward guidance shocks and enhances VAR forecasts of inflation tail risks.

Additional Files: Code and Data Files | Appendix

JEL Classification: C11, C32, E52, E31

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Related Research

- Uhlig, Harold. 2005. "What Are the Effects of Monetary Policy on Output? Results from an Agnostic Identification Procedure." *Journal of Monetary Economics*, vol. 52, no. 2, pp. 381–419. Available at https://doi.org/10.1016/j.jmoneco.2004.05.007.
- Matthias Fleckenstein, Francis A. Longstaff, Hanno Lustig. 2017. "Deflation risk." *The Review of Financial Studies*, vol. 30, no. 8, pp. 2719-2760. Available at https://doi.org/10.1093/rfs/hhx021.

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