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Robert Engle, Guillaume Roussellet, Emil Siriwardane

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SCENARIO GENERATION FOR LONG RUN INTEREST RATE RISK ASSESSMENT

Robert Engle*, Guillaume Roussellet†, Emil Siriwardane‡

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ABSTRACT

We propose a statistical model of the term structure of U.S treasury yields tailored for long-term probability-based scenario generation and forecasts. Our model is easy to estimate and is able to simultaneously reproduce the positivity, persistence, and factor structure of the yield curve. Moreover, we incorporate heteroskedasticity and time-varying correlations across yields, both prevalent features of the data. The model also features a regime-switching short-rate model. We evaluate the out-of-sample performance of our model in terms of forecasting ability and coverage properties, and find that it improves on the standard Diebold and Li model.

JEL Codes: C53, C58, C22, G12

Keywords: yield curve forecast, risk management, scenario simulation, switching regimes.

* Corresponding author: Engle, NYU Stern School of Business. 44W4th St., 9th floor, NY10012, New York.
Email: rengle@stern.nyu.edu

† Roussellet, NYU Stern School of Business. Email: groussel@stern.nyu.edu

‡ Siriwardane, Harvard Business School. Email: esiriwardane@hbs.edu

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