

# **Forecasting Exchange Rate with Linear and Non-linear Vector Autoregressive**

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**Abstract.** The objective of this paper is to see whether non-linear MSBVAR provides a better framework than the linear BVAR model when applied to the forecasting problem. In this study, we propose to forecast the monthly exchange rate of five currencies in the main basket, consisting of USD EUR JPY GBP and CNY, with these two models and compare the performance of the models along the forecast horizons. Moreover, three different prior distributions, namely Normal-Wishart, Normal-Uniform, and Uniform-Uniform, are considered in the Bayesian framework, thus two models with three priors are compared in our empirical forecasting problem. The out-of-sample forecast is conducted and the RMSE and MAE are used as the criteria. We find that linear BVAR with Uniform-Uniform provides the better forecasts of all currencies than do the MSBVAR model for both short and long forecast horizons.