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Title: A New Approach for Detecting Shifts in Forecast Accuracy (joint with Simon Hayes, George Kapetanios, Konstantinos Theodoridis)

Forecasts play a critical role at inflation targeting central banks, such as the Bank of England. Breaks in the forecast performance of a model can potentially incur important policy costs. Commonly used statistical procedures, however, implicitly put a lot of weight on type I errors (or false positives), which result in a relatively low power of tests to identify forecast breakdowns in small samples. We develop a procedure which aims at capturing the policy cost of missing a break. We use data-based rules to find the test size that optimally trades off the costs associated with false positives with those that can result from a break going undetected for too long. In so doing, we also explicitly study forecast errors as a multivariate system. The covariance between forecast errors for different series, though often overlooked in the forecasting literature, not only enables us to consider testing in a multivariate setting but also increases the test power. As a result, we can tailor the choice of the critical values for each series not only to the in-sample properties of each series but also to how the series for forecast errors covary.