Evaluating Value-at-Risk Models with Desk-Level Data

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Abstract

We present new evidence on disaggregated profit and loss (P/L) and value-at-risk (VaR) forecasts obtained from a large international commercial bank. Our data set includes the actual daily P/L generated by four separate business lines within the bank. All four business lines are involved in securities trading and each is observed daily for a period of at least two years. Given this unique data set, we provide an integrated, unifying framework for assessing the accuracy of VaR forecasts. We use a comprehensive Monte Carlo study to assess which of these many tests have the best finite-sample size and power properties. Our desk-level data set provides importance guidance for choosing realistic P/L-generating processes in the Monte Carlo comparison of the various tests. The conditional autoregressive value-at-risk test of Engle and Manganelli (2004) performs best overall, but duration-based tests also perform well in many cases.

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