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Improving daily Value-at-Risk forecasts: The relevance of short-run volatility for regulatory quality assessment

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Abstract

In this paper, we present a novel perspective on data filtering and present an innovative wavelet-based approach that leads to improved Value-at-Risk (VaR) forecasts. A separation of financial conditional volatility into short-, mid- and long-run components allows us to study the relevance of these frequency components with respect to a regulatory quality assessment for daily VaR forecasts.

A simulation study and an analysis of daily market prices suggest that short- and mid-run information components cover the relevant information that is necessary for estimating adequate daily VaR. Excluding long-run information components reduces daily VaR forecasts by (up to) 4% and does not impact the quality of regulatory back-testing.

JEL-Classification: C53, C58, G17, G28, G32
Keywords: Value-at-Risk, Forecasting, Wavelet decomposition, Regulatory back-testing

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