

Abstract of paper “Forecasting Volatility under Fractality, Regime-Switching, Long Memory and Student- t Innovations” by T. Lux and Leonardo Morales-Arias

In this paper we examine the performance of volatility models that incorporate features such as long (short) memory, regime-switching and multifractality along with two competing distributional assumptions of the error component, i.e. Normal vs. Student- t . Our precise contribution is twofold. First, we introduce a new model to the family of Markov-Switching Multifractal models of asset returns (MSM), namely, the Markov-Switching Multifractal model of asset returns with Student- t innovations (MSM- t). Second, we perform a comprehensive *panel* forecasting analysis of the MSM models as well as other competing volatility models (GARCH, GARCH- t , FIGARCH and FIGARCH- t). Our cross-sections consist of all-share equity portfolios, bond indices and portfolios of listed real estate at the country level. Furthermore we investigate whether there is an improvement upon singular forecasts when optimally combining forecasts obtained from the different models at hand. To preview our results we find that: (i) MLE and GMM estimation are both suitable for estimating the MSM- t models, (ii) introducing Student- t innovations to capture "fat tails" may not conclusively improve forecasting accuracy in a Monte Carlo set up, (iii) empirical *panel* forecasts of MSM- t models show an improvement over those of (FI)GARCH and MSM models at longer horizons and (iv) forecast combinations obtained from MSM and (FI)GARCH models appear to provide some improvement upon singular forecasts.