Bayesian Sensitivity Analysis for VaR and TVaR

Edgar Anguiano

It is known that VaR and TVaR are useful to measure huge quantities at low probabilities i.e. measures of extreme scenarios, nonetheless these values are difficult to estimate precisely because they are highly sensitive for low probabilities and sample size, also these measures inherit the error of estimation of $\theta$, where $\theta$ is usually estimated by the maximum likelihood method, say $\hat{\theta}_{\text{MVL}}$, therefore $\hat{\theta}_{\text{MVL}}$ is the most probable value but not the real one. For the above, to create new perspectives is relevant to analyze and understand the variations of the estimates of the extreme scenarios measures.

Keywords: VaR; TVaR, Extreme Values, Maximum Likelihood, Monte Carlo Simulation, Delta Method, Prior Distribution; Likelihood Ratio Test.