

Assessing the extreme events is crucial in financial risk management. All risk managers and financial institutions want to know the risk of their portfolio under rare events scenarios. We illustrate a multivariate Monte Carlo and semi-parametric method to estimate Value-at-Risk (VaR) for a portfolio of stock exchange indexes in Central Europe. It is a method that uses the non-parametric empirical distribution to capture the small risks and the parametric Extreme Value theory to capture large risks. We compare this method with historical simulation and variance-covariance method under low and high volatility samples of data. In general historical simulation method over estimates the VaR for extreme events, while variance-covariance underestimates it. The method that we illustrate gives a result in between because it considers historical performance of the stocks and also corrects for the heavy tails of the distribution. We conclude that the estimate method that we illustrate here is useful in estimating VaR for extreme events, especially for high volatility times.