Bachelor Thesis
Two-stage backtesting of Value-at-Risk models
Jan Matyáš

Abstract

This paper deals with a comparative evaluation of various Value-at-Risk models in terms of their prediction accuracy. We use two-stage backtesting procedure to find the most robust methodology in several aspects. Backtesting framework comprises of testing properties of independence, unconditional coverage, and conditional coverage and successive stage, that uses loss function allowing us to compare the two selected models from the previous part. Four European indices are taken to represent both well developed countries (DAX, ATX) and developing countries (PX, WIG). Models are examined over the period from January 1997 to February 2014. The best performing model in our selection appears to be the historical method with a 99% confidence interval. The use of stable distribution or lower confidence interval do not produce satisfactory results.