ABSTRACT

One of the stylized facts about the behaviour of financial returns is that they tend to exhibit more probability mass in the tails of the distribution than would be suggested by the normal distribution. This phenomenon is called heavy tails. The first part of this thesis focuses on examining the tails of a distribution of returns on Czech stock market index PX. Parametric and semi-parametric approaches to estimation of the tail index, a measure of heaviness of tails, are applied and compared. The results indicate that the tails behave in a way one would expect from an emerging market stock index.

In the second part of the thesis, implications for two quantile-based market risk measures, Value at Risk and Expected Shortfall, are investigated. The main conclusion is that heavy-tailed alternatives should be preferred to the normal distribution in order to avoid serious underestimation of risks embedded in the underlying process.