

Abstract: In this diploma thesis we explain the main principles and properties of bootstrap methods, that can be used to conduct the statistical inference in linear and nonlinear financial time series. We will introduce basic ideas of bootstrap methods for the case when observations can be considered as independent random variables, and afterwards we will describe more advanced methods, that can be successfully used when we are dealing with time series. Thesis deals with both parametric bootstrap methods, that we can use when the underlying parametric model of observations is available, as well as with nonparametric bootstrap methods that are used when more general nonparametric model of time series data is considered. The main objective is to compare particular bootstrap methods and show the usage of these methods on real world data. There is also a basic time series theory included in the work.