Abstract

The purpose of this thesis is to find how we can use Bayesian statistics in analysis of sociological data and to compare outcomes of frequentist and Bayesian approach. Bayesian statistics uses probability distributions on statistical parameters. In the beginning of the analysis in Bayesian approach a prior probability (that is chosen on the basis of relevant information) is attached to the parameters. After combining prior probability and our observed data, posterior probability is computed. Because of the posterior probability we can make statistical conclusions. Comparison of approaches was made from the view of theoretical foundations and procedures and also by means of analysis of sociological data. Point estimates, interval estimates, hypothesis testing (on the example of two-sample t-test) and multiple linear regression analysis were compared. The outcome of this thesis is that considering its philosophy and thanks to the interpretational simplicity the Bayesian analysis is more suitable for sociological data analysis than common frequentist approach. Comparison showed that there is no difference between outcomes of frequentist and objective Bayesian analysis regardless of the sample size. For hypothesis testing we can use Bayesian credible intervals. Using subjective Bayesian analysis on smaller samples has bigger impact on the outcomes and vice versa and it also offers more specific outcomes.