

The quality of a parameter estimate is usually assessed using the mean squared error (MSE). For one dimensional parameter, the estimate constructed using the least squares method is the best. However, for a vector parameter with more than two dimensions this estimator becomes inadmissible. There is always some different estimator which dominates the least squares estimate regardless of the parameter value. This phenomenon is well known as the Stein Paradox. The aim of this bachelor thesis is to describe admissibility and inadmissibility of an estimator, define the James-Stein estimator and perform a simulation study to compare different estimators.