# Bayesian Estimation using Prior Non-Informative Binomial Probabilities

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**Abstract:** This document shows the process of obtaining binomial probabilities using Bayesian estimation of the parameters of probability density functions Bernoulli. The entire procedure of calculating a non-informative prior based on Jeffrey's Rule, which uses the Fisher Information matrix and obtain the maximum likelihood estimators are analyzed. Based on the concept of the Jacobian value for each distribution ratio it is estimated. The data used are the proportions used in parts of disassembly in a recycling process of fuel pumps for tractors.

It is well known that Bayesian inference shows in many cases, better results than frequentist inference. This is due the Bayesian approach is combining the knowledge of a parameter before the data and the information collected during experimentation. This document shows the process of obtaining binomial probabilities using Bayesian estimation of the parameters of Bernoulli density functions. The Entire process of calculating a non-informative prior based on Jeffrey's Rule is analyzed. The analysis uses the Fisher Information matrix in order to obtain the maximum likelihood estimators. Specifically, it is used the concept of the Jacobian estimated value for each distribution ratio. Finally, the application data are the proportions in parts of disassembly of a recycling process for tractor fuel pumps.