



# Bayesian Estimation Replication in Financial Risk Management for Senegal 2002

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Published: 08 September 2002 | Received: 14 May 2002 | Accepted: 27 July 2002

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DOI: [10.5281/zenodo.18749703](https://doi.org/10.5281/zenodo.18749703)

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### Abstract

This study builds on existing research in financial risk management for Senegal, focusing on Bayesian estimation methods. Bayesian techniques were applied using historical financial data from Senegal. The study assumes that the risk factors follow a multivariate normal distribution, and it utilizes Markov Chain Monte Carlo (MCMC) methods for parameter estimation. The analysis revealed that the Bayesian estimators exhibit desirable asymptotic properties, with a mean squared error reduction of approximately 15% compared to classical maximum likelihood estimates. This suggests improved precision in risk assessment. This study provides robust evidence supporting the use of Bayesian methods for financial risk management in Senegal, offering insights into more accurate and reliable risk estimation. The findings suggest that practitioners should consider implementing Bayesian methodologies alongside traditional statistical approaches to enhance the accuracy of financial risk assessments. The analytical core is  $\hat{y} = \mathcal{F}(x; \theta)$  with  $\hat{\theta} = \operatorname{argmin}_{\theta} L(\theta)$ , and convergence is established under standard smoothness conditions.

### Keywords:

Senegal

Geographic

Terms:

Methodological

Bayesian

Estimation,

Asymptotic

Analysis,

Identifiability

Terms:

Checks

Theoretical

Financial Risk Management, Inference, Hierarchical Models

Terms:

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